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TECHNIQUE

With Illustrations

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Dr. Paul Carus, in "The Mechanistic Principle and the Non-Mechanical," says:

The law of causation means that the sum total of existence remains the same. The sum total of energy and substance of yesterday is the same as it is today and will be tomorrow. In other words, all changes that take place are due to motions, and every special case of causation which we investigate is contained within a certain field of observation; it is a mere change of form, a change of position, of configuration, of combination, of interrelation. There is first the initiative motion which enters as a disturbing factor and upsets the state of affairs in a given system, viz., in our field of observation. We call it cause, and we trace the successive transpositions of parts, of the several portions of the system, until a relative rest is regained; and this new state of affairs, the final outcome of this transformation, is called its effect or the result.

Causation, accordingly, is a law of motion and every process of causation is necessarily mechanical. If all details were known, we could see in every single case how one change of place upsets the equilibrium of a state of things and leads to other changes of place. A cause which is not mechanical does not exist. * * *

Apparently form is the essential thing everywhere. Matter and energy are merely the material of which the cosmos is built, but the cosmos itself, its orderly realization, is in its form; the forms of existence make it what it is. Matter only renders things real, energy makes them actual, but form constitutes the essential features of its existence and contains its character. The possibilities of formation are inexhaustible; they are infinite, and for them there is no limit of perfection. * * *

While nothing new can be created so far as substance and energy are concerned, there is decidedly a creation of new forms. The combinations that are possible contain not merely additions of parts, by external associations, but we meet also with fusions resulting in absolutely new things, possessed of new qualities, and this is an important truth which is frequently overlooked.

The laws of chemistry, of molecular mechanics and all other laws that regulate the order of events, are simply applications in specially complicated conditions, but expanded and specialized. The laws of social interrelations, of historic movements, of progress and evolution, are not excepted.

And with it all the eternal law that shapes the aim and end of purpose, the divinity of man, he shows is quite justified on the recognition of the mechanistic principle. Now, at first blush, this may seem a far cry from an introduction to technique, but we thoroughly believe that herein is contained the essence of the technique principle. If the principle of adjustment is of any consequence whatever, it represents an universal law, and that can be nothing more nor less than the mechanistic law. This is the understanding we have had in Dr. Still's addresses on "Mind, Matter and Motion." That the technique of adjustment is nothing short than a practical application of the universal law, that bodily configuration and conformation, that disease expressions and conditions, are absolutely conformable to this and nothing else. A law of nature is perceived in the effect of certain causes, and in the osteopathic realm causes remain motions, whether disease productive or curative, and are nothing short of the universal expression of orderly change. Dr. Still discovered and made practicable to the human body this great principle.

THE MECHANISM OF THE BODY

Every human spinal column by virtue of its upright position has potentially (positionally) weak spots. This cannot be otherwise, more or less increasingly so as the upright has been assumed, throughout the vertebrate animal kingdom. Thus, in a passive sense at the present time, past evolutionary changes have made it so; and, of course, in an active sense at the present time also, in just so far as these forces are actively engaged to maintain the present position. Thus is shown also from another angle that such forces are not merely passive, e. g., in present day retrogressive lapses. Consequently the forces are progressive after the manner of maintaining present day architecture and position. But this does not necessarily mean we should interpret physical progress as a striving or struggle for architecturally new lines, but rather a strengthening of present lines. Here we believe rests the present status of limitations. But many other factors other than evolutionary enter to maintain the upright position, such as hygiene in all the word implies, environment, activity, habits, etc., are among the greatest importance.

We should remember that what is gained by position, flexibility, etc., is lost elsewhere, stability of base, etc. The law of compensation is an ever-active principle. Our work, the osteopathic work, is to interpret and point the way for increased fortification of tissue construction and enhanced resistance, and thus better health, increased efficiency and greater usefulness.

The line of gravity corresponds to the potentially weak spots, in fact is the real predisposing factor many times, thus favoring pernicious habits, faulty hygiene and accidental happenings, or at times, dominate the structure and enter as active destructive forces to the health and efficiency of structure and function. The gravity line corresponds to the maximum pull and effect on structure, and represents a very active and constant force. This is also shown where the viscera are dislodged from their shelves, when the line is shifted forward, allowing developmental, positional, and accidental forces to partially predominate.

Gravitation considers mass only—it has nothing to do with physical or chemical change. It is not a force; "it is a generalized statement of what masses will do and how they behave under given circumstances." In the human body the various circumstances are brought about by the maintenance of equilibrium, which is "produced by the mutual counteraction of two or more forces." Physiologically, this is interpreted as "proper muscular force under nervous control, so that it can perform co-ordinated movements, or resist the force of gravity." Thus the upright position is maintained through integrity of brain, eye, muscular sense, tactile sense of feet, and joint senses. There must be a constant strain and stress upon the part of every tissue, and this is particularly noticeable in the different segments of the body. Technique has to do with what may be termed the localized process of co-ordinates.

Consequently our main concern should be the building up of (a) strong lines of inheritance; (b) bodies free from congenital defects; (c) well developed bodies through infancy, childhood, and adolescence, particularly when all tissues are specially plastic; (d) the maintenance of a healthy physical organism through right living, habits, prevention, and adjustment. Thus, disease resistance is increased, accidental probabilities reduced, and a more rounded out and normal mechanism secured.

Huxley, in "Man's Place in Nature," in reference to the vertebral column, expressed himself as follows:

> In Man, in consequence partly of the disposition of the articular surfaces of the vertebrae, and largely of the elastic tension of some of the fibrous bands, or ligaments, which connect these vertebrae together, the spinal column, as a whole, has an elegant S-like curvature, being convex forwards in the neck, con-

cave in the back, convex in the loins, or lumbar region, and concave again in the sacral region; an arrangement which gives much elasticity to the whole backbone, and diminishes the jar communicated to the spine, and through it to the head, by locomotion in the erect position.

Here, in a single paragraph, is given the anatomical basis, from a gross structural standpoint, for an important part of osteopathic technique. The most significant factor, in our opinion, rests with the ligaments. A certain solidity or compactness has been sacrificed at the expense of elasticity of structure. Although unquestionably every tissue has been more or less changed, still the tissues that bind and hold the parts together will naturally receive the first effect if the limits of physiologic movement are unduly exaggerated. Experimental work bears us out that it is damage to the ligaments that principally maintain the chronic lesion.

Keith, in "Man," has this to say:

At all other joints (except the knee) muscles keep the bones in apposition except when the movements become forced or extreme; it is only in these extreme movements that the ligaments take a part in limiting the action and securing the joint. * * * In the living, standing man all the muscles of the leg are in a quivering action, balancing and stiffening the legs on the feet. All the time messages are passing from the muscles to the centres in the spinal cord, from which other messages are being issued to regulate and co-ordinate the muscles in their action. * * * The spinal column is not stable by itself. * * * The vertebrae of the backbone are balanced one upon the other and maintained erect by the exceeding complex musculature of the back. The twelve pairs of ribs * * * also act as levers for the backbone. The great sheets of muscles in the wall of the abdomen and thorax, which come into action and support the viscera when we stand up, at the same time act upon the ribs and through them balance the spine and trunk. * * * All the muscles involved are regulated and co-ordinated unconsciously by a silently working, but elaborate, reflex nervous system.

We have quoted this for it strikingly brings out an important phase of osteopathic pathology as pertains especially to the muscular lesion. No one has ever doubted, we are sure, that muscular lesions are an important part of our pathology, although upon the other hand, a few seem to have questioned the existence of the osseous lesion. Technically, most lesions probably involve all tissues, muscles, ligaments and bones; but it cannot be questioned that release of muscular lesion frequently allows adjustment of the component parts and more or less perfect apposition of articular structures follows. No doubt many lesions are adjusted by nature. Still a huge field remains, and this is the pathology of the bony lesion, where muscular confines have not been restrained, and as a consequence the ligaments damaged and the osseous tissues subluxated. Again, no doubt, muscular manipulation and allied procedures will adjust a number of these, but there still remains a fair percentage that are amenable to specific adjustment alone.

In the neurologic field the inceptive pathology probably rests with the blockage of peripheral impulses, due to damaged muscles, ligaments and articular surfaces, the seriousness of which is dependent upon tone, location, depth and extent of involvement, and function of the disturbed tissues.

THE MOVEMENTS OF THE SPINE

Both Drs. M. E. Clark and H. W. Forbes have for a long time emphasized that the movements of the spine are an important criterion as to whether a lesion exists between two vertebrae. They have paid particular attention to both the movements and articular surfaces of a joint. This, in conjuction with anatomical malalignment, muscular contractions, tenderness, etc., presents definite data or signs and symptoms that warrant conclusive evidence in the diagnostic field. Every competent osteopathic physician is aware that anatomical irregularity alone may or may not signify maladjustment. Muscular contraction and tenderness may or may not be due to reflex irritation. Still confusion can easily arise where the spinal condition presents at the same seg-

ment both primary and reflex irritation; and it is always surprising how much easier the primary lesion is adjusted when the reflex sources have been lessened in severity; for example, from the digestive tract. But with all of this it is after all the functional test that is the real criterion, which in the vertebral lesion is the movement test.

The following brief outline, that is the data pertaining to the movements, is taken from Lovett's "Lateral Curvature of the Spine and Round Shoulders." Flexion, extension and side-bending rotation are the three movements of the spine.

No one more than the osteopathist realizes that the spine is not extremely flexible, although at the same time he well knows that a certain flexibility is an essential to perfect health. The flexibility, the tone, the resiliency, the vitality of the spine, after a certain tactile education and experience, is most noticeable, and the varying degree of these properties constitutes a world of knowledge to the osteopathic physician. This refers to the spine, both as a whole and in part, and if we do not always make a note of it consciously, nevertheless subconsciously we are well aware of it, for diagnosis, pathology, prognosis and therapy are quite dependent upon these conditions.

In *flexion*, or forward bending, we have a movement wherein every part of the spine takes part. It is of great value in adjusting a large number of lesions, but particularly of the lower dorsal and lumbar areas. It is the one movement that is most evenly distributed, and is most extreme when the patient is sitting anl leaning forward. Undoubtedly, the sitting posture is frequently used in adjusting lesions, although another position is very commonly utilized, namely, having the patient upon the side. In the last position one can not obtain as great flexion as in the sitting or standing posture, but ease of control of the patient is greater. Dr. Still quite commonly treats many lesions while the patient is standing. It is the diagnosis that really counts, for a successful technique is absolutely dependent upon precise leverages.

The lumbar region is the most flexible part of the spine; the twelfth dorsal functions practically the same as the lumbar spine. The cervical vertebrae come next in amount of flexibility, the occipito-atlantal articulation being very flexible. The dorsal spine is least flexible, still here this movement is of great value in diagnosis and treatment.

Hyperextension or backward bending is not so evenly distributed as flexion, by far the greatest amount occurring in the lumbar and two lower dorsal vertebrae. Although the dorsal area can be hyperextended but little, nevertheless that slight amount is invaluable in adjusting many of its lesions. It is claimed that the "character of the curve obtained in marked hyperextension is practically the same, whether it is obtained by active or passive means, and whether the model lies on the face or on the side, or stands, or sits." In our technique the passive state in hyperextension is of great value, obtained by the patient lying upon the face with a pillow under the upper chest or sitting and leaning far back, for then forces and leverages can be localized and controlled. Like in flexion, the passive position is usually far preferrable for the reason that the field of operation can easily be controlled, leverages obtained, and if necessary, vertebrae above and below the lesion locked against unnecessary movement and leverages.

The greatest amount of hyperextension is obtained in the lumbar and lower dorsal, while, as has been stated, the movement is but little in the upper and mid-dorsal, and moderately so in the cervical region.

The compound movement of *lateral flexion*, or side bending and rotation, is a most interesting study and one of great practical importance. No doubt most osteopathic vertebral lesions are primarily a form of rotation which includes a certain amount of lateral flexion; and

with it all there necessarily must be a lesser amount of involvement of the contiguous segments.

"From the mechanical point of view, torsion results from any motion of a straight, flexible rod, in which all the particles do not move in parallel planes. Consequently, if such a rod is bent in two planes at the same time, torsion must inevitably occur." In the spinal column we have a rod that always presents certain so-called physiological curves. The column is flexible and the curves are in the antero-posterior plane, so that in lateral flexion rotation is certain to follow, and in the primary twists or rotation of a lesion, side-bending is bound to occur, for there is bending in two planes at one time. In addition to this, there are other factors to consider, namely, the shape of the vertebrae, the ligaments and the muscles. Thus, it will be readily seen there will be an infinite variety of mechanical problems presented; in fact, every case is an individual problem; physiologic and pathologic curves vary as to extent; likewise localized lesions; extent of involvement of ligaments; varying strength of muscles, relatively and actually; amount and extent of contractions and contractures. Verily, the pathology is legion. Keen diagnosis is the prime requisite, for specific technique can only follow a knowledge of the problems presented.

In our opinion, technique will never be thoroughly understood until the mechanics and mathematics of the spinal column are elucidated. This will require considerable research work, but the time and effort will be fully justified, for in this way only can a scientific technique be approached. Certain definite lines as pertain to axes and planes must be laid down and from these the co-ordinates, mathematically, can be determined. Thus, by starting from the fixed lines, the co-ordinate axes and planes, other lines and elements by which the position of any point, for example a curve, may be defined. Such work will require the training of a mathematician; our efforts here are simply introductory and largely comprise physiologic and pathologic modifications.

In the side-bending part of the compound movement of side-bending rotation, it is evident "there is no one type of spinal side-bending, as there are types of flexion and extension, but the character and distribution of the movements are wholly dependent upon whether the spine is flexed, erect, or hyperextended when the side-bending is performed."

Side-bending in the flexed position is commonly used in technique. By this position one can obtain flexion higher in the spine than in any other. The greatest deviation is about the eighth dorsal. "The more marked the flexed position, the higher in the spine is the side-bending localized." In this position the lumbar region is more or less locked against side-bending. It can be readily seen that if other things are equal, an important portion of technique is the locking of the spine against certain motions. This aids in more precise application and guards against possible injuries, provided leverages are not sacrificed or the control of the field not restricted.

In the side-bending in the flexed position there is rotation of the vertebral bodies toward the convexity of the lateral curve, which occurs chiefly in the dorsal region. Side-bending in the erect position is not so evenly distributed as in the flexed position. There is greater bending below the tenth dorsal and relatively less above. The rotation of the bodies of the vertebrae are to the concave side of the lateral curve, more in the lumbar than in the dorsal region, and lower down in the spine than in the flexed position.

Side-bending in the hyperextended spine becomes "a sharply limited movement, localized low down in the spine and occurring almost wholly below the eleventh dorsal vertebra." Thus, the hyperextended side-bending locks the dorsal region and confines the side-bending largely to the lumbar region. This feature, however, must not be confused with

the very effective treatment of a rotated dorsal vertebra, wherein the spine is hyperextended and a thrust applied to either the spinous or a transverse process of the offending vertebra. In this instance we should remember we are dealing with a pathologic area, not physiologic, and the hyperextension is simply to relax or release a certain area, and not carried to the extreme point of locking the dorsal spine against side-bending and rotation. "Side-bending is situated highest in the flexed position, lower down in the erect position, and lowest in hyperextension."

Rotation accompanying side-bending in the hyperextended spine occurs below the eleventh dorsal, the rotation being to the concave side of the lateral cure. It will be noted the rotation type is different in all three of the side-bending positions. Side-bending with the patient prone is greater in the lumbar than in the dorsal spine, but not so marked as in the erect position. The rotation when bending is marked is that of the vertebral bodies to the concave side.

Rotation of the spine is of the greatest practical importance. The vertebral twists constitute the major part of the chronic osteopathic lesions of the spine. It would seem that many of them come about by marked rotations of the joints wherein the movement exceeds physiologic limitations and as a consequence both muscles and ligaments are so damaged that nature is not always able to appose the parts. We have seen also that movements of the spine, wherein side-bending is a part, are always accompanied with a greater or less rotation. Then in acute conditions where the muscles are irritated, an uneven pull, or lack of muscular balance, will often be followed by vertebral rotation, for we must remember side-bending and rotation are part and parcel of the same compound movement, as either part of this movement does not exist in the pure form. Then, in addition to all of this, there are the reflex irritations from the central nervous system itself, or initiated from a distance, that complicates the field.

All parts of the spine possess a certain amount of rotation, greatest in the dorsal and cervical regions and less in the lumbar. Rotation in the erect position is greatest at the upper cervical and gradually diminishes to the upper lumbar. Forcible rotation undoubtedly affects the lumbar vertebrae, for this is very frequently noted in clinical work. Side-bending accompanying the rotation is to the side away from the direction toward which the bodies of the vertebrae turn. In the flexed position, the rotation is confined to the cervical and upper dorsal. The more flexed the position, the higher the rotation, for the flexion locks the lower spine against rotation.

In the hyperextended position, the rotation, as we saw under flexion, is largely confined to the eleventh and twelfth dorsals and first and second lumbars. "Rotation is located high in flexed positions, lower in erect positions, and is situated lowest and is more sharply localized in hyperextended positions." "A lateral deviation of the spine accompanies all rotations. It is situated at the site of the rotation and is convex to the right when the rotation is to the left and *vice versa*. In the erect position, rotation causes a marked side curve in the dorsal region."

In the treatment of the cervical region, as well as the other regions, a definite understanding of the movements, no one will question, is basic, although the great practical point is specific diagnosis, followed by a definite principle or readjustment. No doubt a certain routine relaxing and manipulation will correct a number of lesions, for nature is constantly striving to adapt the parts to an environment of minimum friction. There is the principle of definite application of the physiologic movements, composed largely of a reversal of the compound movement of side-bending rotation. Of course the diagnosis must be exact and the application specific, or else little can be ac-

complished. After noting definitely the locality and character of the lesion, reversing the side-bending and rotation with a certain amount of flexion and hyperextension and traction as indicated, and sufficient to attain and maintain leverages and relaxation, adjustment is readily accomplished. This is undoubtedly one of the prettiest exhibitions of technique. Closely allied to this is the principle of exaggerate the lesion, which comprises for its successful fulfilment the same precise diagnosis. In either instance returning over the outgoing path necessarily must be adhered to. In the first place, after securing certain leverages, the replacement is simply by reversal of movements; in the other, through forcible, but careful movements, that exaggerate the lesion, that is rotation, side-bending, flexion and hyperextension, any or all as indicated, accompanied by traction to attain and maintain leverage until the return pathis negotiated, the readjustment is accomplished. This latter method overcomes conditions such as severe contractures and adhesions that the former cannot overcome. Still, both have an important field to fulfill. The skilled technician will become conversant with all possible methods. Then there is the thrust and allied methods that utilize considerable force, specifically and quickly applied to levers, in order to reverse the rotation. But we are not in sympathy with this principle as applied to the cervicals, the force cannot be accurately judged. The first two methods may be applied with the patient either lying or sitting. There is, also, the approximation method, approximating the parts so that the strain and tension is released and then returning over the outgoing path. Fresh lesions and tissues that have undergone very little pathologic change are thus specially amenable. This method can frequently be applied to the cervical region.

In the cervical region one can straighten the physiological curve by flexion, or it can be increased by hyperextension. Side-bending is uniform throughout this part of the spine, and the accompanying rotation of the bodies of the vertebrae is to the concavity of the lateral curve. When rotation is instituted, there is a side-bending convex to the side opposite to which the bodies of the vertebrae turn. In the treatment of the dorsal region the above principles are applicable. The thrust methods are utilized much more frequently, for the range of movements in the dorsal region are not so great, the field is not so easily handled, and the possibility of injury is almost negligible.

Nevertheless, leverages can easily be obtained, all depending upon careful diagnosis and getting the patient in the desirable position and having him thoroughly relax. To make up for lessened flexibility (the dorsal region is the least mobile region of the column), absolute relaxation and command of the field of operation are necessary. Flexion can be increased to some extent, although not to the same degree as the lumbar spine. Hyperextension of the dorsal region can be accomplished, though not markedly; but as we have said before, even a slight hyperextension is of great value to the technician, for it aids very materially in relaxing the tissues about the rotary lesion, so that a thrust on the spinous or transverse process is often very effective. When hyperextension is untilized, there cannot be but little side-bending and rotation, although what side-bending and rotation there are, carry the bodies of the vertebrae to the concavity of the lateral curve. Upon the other hand, flexion of the whole spine with side-bending causes rotation of the bodies of the vertebrae to the convexity of the lateral curve. This movement is characteristic of the dorsal region, while the former is characteristic of the lumbar region. Side-bending in the dorsal region is greatest in the mid-dorsal region, and freest in the erect and prone position. The greatest movement is that of rotation, most marked in the upper dorsal. This marked rotation of

the upper dorsal is an important key to the correction of twists in this section, especially the upper four or five vertebrae, although the rotation is quite free as low as the seventh or eighth. For example, have the patient sit erect upon a stool while the operator stands almost directly back of the patient. Suppose there is a lesion at the third dorsal, say the spinous process to the left. Place the thumb firmly against the left side of the spinous process. Then with the right hand over the head of the patient, keeping the forearm firmly against the right side of the neck, flex head to the limit and turn the face slightly toward the lesion, that is, to the left. Then with a quick movement, force head and neck and upper dorsals laterally and counter to the pressure of the left thumb. Most of the work is done with right hand and arm. If done just right it is a very easy and effective method.

Rotation of the dorsal region is greatest in the erect position, less in flexion and the least in hyperextension. The side-bending always follows rotation, the bodies of the vertebrae turn to the convexity of the lateral curve. This is characteristic of the rotation of the bodies accompanying side-bending when the whole spine is flexed. In hyperextension of the whole spine, or when the spine is erect, the rotation accompanying side-bending is to the concavity.

In the lumbar region there is great mobility of flexion; also, both hyperextension and side-bending are free. The rotation is limited, still clinically lesions are common. The rotation accompanying side-bending turns the vertebral bodies toward the concavity of the lateral curve, which is also true of the cervical region; the opposite is true of the dorsal region. In correcting rotations of the lumbar spine, a favorite method is have the patient upon his side with torso and thighs flexed. Although flexion lessens mobility of rotation in the lumbar region, this method enables one to precisely localize his forces and at the same time lock the rest of the spine against unnecessary rotation. With a little practice, the correct angle of flexion can be secured, which, if accompanied with a certain amount of rotation, will give the maximum of release to the lesions and still enable one to protect the rest of the spine while the parts are being rotated into apposition.

Although, as Piersol's Anatomy says, the "range of motion of the whole spine is the sum of many small movements," still in osteopathic practice we should not loose sight of the fact that in the majority of instances we are dealing with individual movements, that is, separate and distinct motions as pertain to a certain joint. These necessarily must be a law unto themselves. The articular processes, the vertebral bodies and the discs are determining factors.

THE PATHOLOGY OF THE LESION

The pathology of the lesion is dependent upon two essential features. One is the etiology and the other is the physiologic movements of the joint or joints affected, which are controlled by the position of the joint-planes. Unquestionably, there is a very wide range of causes. Faulty postures and strains and muscular contractions which disturb equilibration of a segment or an extensive area to severe organic effects, such as may arise from tubercular infection or softening of the bony tissues from rachitis constitute a large field. Aside from a definite local effect as from a cold or fall, there are such disorders as empyema, infantile paralysis and arthritis deformans to certain bony malformations and diseases, that through lowered resistance of the structure, lead to a greater or less structural deformity. Lowered resistance is frequently the one great means (or cause) to an unbalanced structure, with consequent local malposition, or, not rarely, a curvature. The locality of the spinal segments affected as exemplified in the function of that particular part of the spine, the physiologic movements, is

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THE TREATMENT OF THE MINOR PSYCHOSES

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For the most part, this term is applied to the neurasthenic and hysterical states, though certain of the epileptic psychoses are often included with the class. This study is based upon reports of about 200 cases of borderland states, mostly in the Pacific College clinics.

There are certain physiological considerations which should be brought to mind in considering this class of diseases. It must be remembered that normal mentality depends upon normal functioning of a normal brain; that the cerebral cortex alone includes something like a thousand millions of neurons, each with its own identity and its own metabolism; that these neurons are related to other millions of neurons in the lower brain centers, the cord, cerebellum and ganglia, and that the number of the relationships between these neurons multiply by many times the actual numbers of the cells These neurons are arranged in systems, variously related. As the result of evolution through ages of inheritance, those neuronic relationships, both structural and functional, which have been found to be for the best good of the race, have been perpetuated. Thus, also, primitive traits remain fixed, though as "time makes ancient good uncouth," later better reactions overlay the primitive ones. The human brain at the present time carries in its substance the results of the heredity, and thus of the history, of the race form its beginning.

Those neuronic relationships which are the result of later developmental influences are the less firmly fixed, under certain abnormal conditions they may be obliterated, more or less completely, and the more primitive traits tend to reappear, with certain variations.

The history of the individual also modifies his reactions. Through repeated use, the liminal value of any neuron system may be greatly lowered, so that comparatively slight stimuli may be sufficient to initiate relatively marked reactions. This lowering of the liminal value of neuron systems makes up what is called habit, and it is probably by the same physiological process that habits of thinking and feeling, as well as behaving, are brought into power. The liminal value of neurons may be modified also by various physiological conditions, variations in the pressure and the quality of the blood, the presence of toxins, or pressure conditions within the brain; the fact that stimulation has or has not been received recently, and a number of other factors may enter into the problem. The place of the internal secretions in modifying neuronic activity needs investigation. If, under normal physiological conditions, the reactions of any individual are not so adapted to his environment as to lead to the best good of the race, then there is some abnormal condition present.

In the minor psychoses, as in the more serious mental disorders, the neurotic inheritance is practically always present. Rarely, some severe nutritional disturbance early in childhood may be responsible for defective development; rarely extremely unusual demands upon a normal nervous system may result in disturbed function of the cortex. Given a neurotic inheritance, the defective brain structure places a limit upon the mental development along general lines, and upon the endurance of the individual. Marked brilliancy of intellect along certain lines is not out of harmony with the condition; the long maintenance of a wholesome and sane reaction to exceptionally long periods of urgent demands upon body and brain is perhaps not possible to the neurotic. The slightly defective brain, with a history of undue demands, gives the most important etiology of the minor psychoses. In such cases the later developed neuron systems become more or less inefficient, the neuron systems developed during the earlier

*Read before the Colorado Osteopathic Association.

strenuons primeval ages become more or less completely uncovered, and the patient's reactions to his environment are modified accordingly.

The primeval man was in danger when he walked through an open field, or permitted himself to be caught in a closed place, or stood on a high cliff, or inadvertently touched fur, or anything cold and clammy, or anything unclean, or things crawling like vermin. His descendant forgets much of this, in this attention to the details of civilized life, but when he becomes neurasthenic, or psychasthenic, or phrenasthenic, or subject to borderland states, he has agorophobia, or claustrophobia, or mysophobia, or one of the other peculiar horrors. The primitive man may have been cruel, but his life often depended upon his kindness to domestic animals, such as his dog or his horse; his modern neurasthenic decendant suffers from zoophilia. In this category come also the carelessness concerning habits of eating or dress, often found in such states, the lying propensities of certain drug psychoses, pyromania, kleptomania, etc., undue fondness for articles of personal adornment, excessive ideas of personal valor or attainments.

Disturbances of neuronic relationships may depend upon peculiar personal experiences. It is not probable that the emergencies of ordinary human life could undermine the mentality of any person whose brain structure is normal; but in persons of a neurotic history and inheritance, or in those who are suffering from bodily conditions capable of affecting the metabolism of the cortical neurons, the various shocks, disappointments, and periods of emotional distress, may alter the metabolism of the neurons so profoundly as to interfere with their normal function; thus with normal mentality. The fact of a neurotic inheritance adds gloom to the prognosis in such cases.

The place of bony lesions in the development of the psychoses should be especially considered. First, there are a few cases in which suddenly produced lesions of the cervical vertebrae, especially of the atlas or the axis, may be followed by sudden, acute mental symptoms; and the correction of these lesions may be followed by recovery. The suddenly produced lesion of cervical vertebrae may cause very strange feelings in people who are not considered at all insane,—the experience is rather common, indeed, and the sensations of dullness, lack of self-control, etc., pass away upon the correction of the lesions. Any cervical lesions should be considered as efficient disturbers of the mental ability; they add to the severity of the symptoms in cases which some other cause of the psychosis is known. Bony lesions may localize the symptoms in hypochondria.

Lesions of the upper thoracic region also may interfere with the circulation of the blood through the cranial structures. (Whether there are vaso-motor nerves to the brain or not, there are certainly vaso-motor nerves to the meninges.) Lesions of the mid-thoracic region may interfere with the cardiac action; hypochondria is made worse and may be partly caused by a "nervous heart." Lesions of the middle and lower thoracic vertebrae may interfere with the circulation and the functions of the liver, the kidneys, the intestines and other abdominal and pelvic organs. Lesions of the lumbar vertebrae, the sacrum and the innominates are of interest in the psychoses with a sexual basis. In a case of nymphomania treated in the clinics of the Pacific College of Osteopathy the stigmata of degeneracy were absent; there was no history of bad heredity; the only causes which could be discovered for the condition were a pronounced subluxation of the innominate, and the presence of considerable masses of scar tissue around the cervix uteri. The general health, habits, hygiene, diet, etc., were unusually good. The treatment outlined included the correction of the innominate

lesion, and the stretching of the tissues around the scars, in the hope that sensory nerves might be somewhat freed from pressure. The treatment was begun soon after an attack; these had been appearing at intervals of one to six weeks. After the treatments were begun, there was never another, and the patient was watched for several years. This may serve to illustrate the possibilities of lesions affecting the nerve centers controlling the sexual organs. In other cases of nymphomania and satyriasis, the presence of bad inheritance, of various bad habits, or pronounced insane or neurotic may cloud the effects of the bony lesions.

Rib lesions appear to be most harmful when they prevent normal breathing habits. In every psychosis associated with emotional disturbances, or apparently caused by emotional storms, the breathing movements have been found abnormal. Usually there is very slight mobility of the thorax, or there may be a habit of irregular breathing, sometimes of the Cheyne-Stokes variety. These abnormalities are more marked during an acute attack; an attack may often be aborted by forced deep, regular breathing. The nurse should simply compel the patient to make constant and urgent efforts toward a regular, slow, deep respiration. The effects are often beyond expectation. In the intervals of the acute attacks, the same effects should be sought. the regular, slow, even breathing, with increased mobility of the thorax. The blood becomes better with better circulation through the red bone marrow, every organ capable of being affected by irregular respiratory movements is encouraged to act more efficiently by regular respiratory movements. There is another effect: since emotions are so fully and freely expressed by respiratory movements, the attempts toward even and regular respiratory movements is a factor in bringing about an even and well balanced emotional character. This relationship is well established, but, for evident reasons, it is difficult to secure the co-operation of the patient in improving matters.

Patients with disturbed mentality need exercise in the open air, they need rest, they need good nutritive food, they must be kept from overeating, especially of improper foods. Some do best on the modified Weir-Mitchell rest and milk cure. The question of rest and exercise, of isolation or entertainment, must be decided for each case. The removal of conditions which increase irritability, the better nutrition of the body, the building of better blood and the breathing of better air, these are factors in the treatment of practically every such case. The body must be carefully examined to see that other sources of irritation may be removed. Parasites in the intestinal tract, piles or hemorrhoids, tumors in the neighborhood of the more sensitive regions of the body, diseases of the ovaries or the testes, scar tissues in sensitive regions, eye strain, (and this should include the examination of the muscular balancing, as well as of the refraction itself), ear diseases, bad teeth, and everything else which might send abnormal sensory impulses into the central nervous system should be considered. It must be remembered that irritations which would probably be of no effect in persons of normal cerebral structure may be sources of serious irritation to persons of defective development.

The educational treatment of the minor psychoses depends, again, upon the recognition of the real condition of the patient. In a certain class of cases, there may be actions performed which are absolutely beyond consciousness; or there may be an unconscious attitude of distrust, or suspicion, or antipathy, which is working for ill. There may be a habit of illness and of self-pity, which is beyond question disastrous. In all motor or associational processes which are of ill effects and unconsciously acting for evil, the first thing to do is to bring the matter fairly and squarely before the consciousness of the patient. Whenever his be-

havior is brought fairly and completely before him, he becomes able to inhibit the action; the acts which are performed unconsciously cannot be inhibited. The first step, then, is a complete understanding of the patient concerning that which he is doing or thinking, which is out of harmony with what he ought to do or to think. This can be done only after a thorough knowledge of the case. This is the first step, even in those cases in which the patient thinks himself perfectly acquainted with his own actions. By observation, one can usually find that there are some actions associated with his trouble with which he is not acquainted. The study of this condition should include a consideration of his dreams, of this respiratory, cardiac and blood pressure changes during conversation, etc. These things should be explained to him as fully as his condition warrants.

Next, it is necessary to prevent any particular attempts to exercise volitional control of the condition. The usual tendency of patients suffering from the fixed ideas, or the compulsions, or the phobias, or the doubting manias, or any other of the hydra-headed effects of disturbed cerebral activity, is the urgent endeavor to control these thoughts or actions by mere "force of will power." They usually have rather an exaggerated idea of their own self-control; it is pitiful see them praise themselves in this respect—but they simply cannot do it. The motor neurons, the associational neurons, are essentially weakened, and the control is a physiological impossibility. Not only because of the original disturbance, but also because of the effects of repetition, the liminal value of the neuron systems concerned in the production of the aberrant mentality is tremendously lowered. Every attempt at volitional control, and every attempt of well meaning friends at argument, and every consideration of related subjects, only stimulates these neurons and makes them more irritable. The thing to do is to raise the liminal value of these neurons, and to lower the liminal value of other neuron systems. This is possible, but not always easily done. The patient must not try to do anything about it himself; having given the doctor his complete confidence as nearly as he can, and after having had as correct an explanation of his disorder as his mentality warrants, he must leave the matter alone; his doctor must attend to the matter, and it is not any of the patient's business. This must be insisted upon. Next, he must be set at some other line of endeavor. He must not try to do anything for the sake of forgetting, he must simply do as he is told. If he is hypochondriac, he must not try to think health—he must dig potatoes, build a flying machine, make clothes for a sick child; if he has a doubting mania, he must not decide things, he must make a collection of coleoptera, or plant rows of corn, or even lie quietly, watching his own breath. If a woman feels that all her family hate her, and life isn't worth living, give her a new dress, insist upon her having face massage, a hair dresser, compel her to look her best: if a man has a similar complaint (usually he does not feel so humble), let him have an auto, or build a flying machine, or do, oh, anything. It is the doing that cures—let the thinking alone.

This is the secret—first, the correction of bodily sources of disturbed function any where: second, the explanation of symptom with as scientific accuracy as is possible; third, the doing of anything, —anything.

Pacific College of Osteopathy.

THE HUMAN FACTOR IN OUR PROFESSION

Chas. J. Muttart, D. O.

In the history of medicine are to be found endless examples of the part played by the human factor in the profession. Perhaps in no other profession has this factor played so conspicuous a part. Hu-

Read Before Pennsylvania Osteopathic Association.

man credulity has been taken advantage of in prescribing remedies for the suffering in all ages, and the practice persists in a modified form even to this day.

Before the day of the microscope, with its opening up of new worlds of biology, histology, pathology, bacteriology, etc., the remedies employed could have had no possible effect upon the conditions for which they were prescribed. Nuts were supposed to be good brain food because many nuts have an arrangement of their lobes which resembles the conformation of the brain. Fish was at one time supposed to be good brain food because the flesh contains phosphorous and so does the brain. Flowers of yellow plants were good for jaundice, and darker flowers were good for darker jaundice. Red wines were good for anemic people, because somehow the color was supposed to affect the patient in such a way as to make up for the lack of coloring in the blood, and the light wines were given to people who had too much blood. Plants of certain forms were good for the organs or parts of man which they resembled, hence the names Kidneywort and Liverwort.

Astrology was so firmly rooted in the minds of both patient and physician that surgeons would not operate on a part of the body governed by a particular sign or constellation on the day when the moon was in that particular portion of the heavens, for the moon was supposed to be a bringer of ill luck. As late as 1766, Mesmer was graduated at the University of Vienna with a thesis on "The Influence of the Stars on Human Constitutions." Alchemy, mathematical medicine, magnetism, amulets, talismans, charms, touch of the hanged, the king's touch, and many others each in turn had its day, only to be relegated finally to the therapeutic junk heap.

Dr. James J. Walsh, Dean and Professor of Functional Nervous Diseases, and of the History of Medicine at Fordham University, has this to say regarding the more modern therapeutic measures:

> When the antitoxins and directly curative serums seemed about to make a place for themselves in therapeutics, it looked for a time as though all other therapeutic factors must give way to the definite accurate doses of antitoxic principles, directly opposed to the toxins of disease and capable of conquering it. With the success of the diphtheria serum, the prospects for scientific therapeutics from the biological standpoint seemed most promising. *Unfortunately our further experience with antitoxins and other therapeutic sera has not been satisfactory, and now the medical world is looking elsewhere for progress in therapeutics.*

What proportion of the medical profession would agree with this seemingly frank statement is a question.

These modern principles are either right or wrong, and I would like to see this convention pass a resolution request the A. T. Still Research Institute to furnish us with reliable information on this point. The function of this institution should be to not only prove our own theories, but to pass upon all advanced theories in therapeutics. Medical confidence in these principles seems to be deeply rooted at the present time, but no more firmly than it was in many of the theories of the past which have long since been "cast into the Limbo of worn out ideas." If Dr. Walsh is right, I think we ought to know it at first hand.

If we were to accept without question the mass of supposedly scientific evidence and statistics used to bolster up medical confidence in these modern methods, we might say with them that at last medicine has reached a scientific basis and is worthy of public confidence. Yet, I am not convinced that this is the case. I feel that the real curative factor is the same today as it always has been. This factor has stood the test of all time, and is the one upon which we, as osteopathic physicians, rely for our results.

Dr. Still had this in mind when in 1874 he said: "The rule of the artery must be absolute, universal and unobstructed or disease will be the result."

A famous English physician, Sir John Marshall, referred to the same factor when he said: "The healing power of nature is the agent to employ in the healing of an ulcer or the union of a broken bone, and it is equally true that the physician or surgeon never cured a disease; he only assisted the natural forces of cure performed by the intrinsic conservative energy of the body, and this is but the extension of the force imparted to the body at the time of the origination of the individual being."

The recuperative power of living protoplasm, then, is the power which has cured disease during all ages, regardless of the methods used to assist or bring it forth. How may we best utilize this intrinsic conservative energy? First, by those methods peculiar to osteopathy, and with which you are all familiar, and by which we remove all structural impediments to the free circulation of this vital force.

It must be admitted, that of all the methods employed in the past for utilizing this conservative energy, the osteopathic concept is by far the most logical.

When we consider, however, the curative results obtained in the past, often by the use of remedies which were afterward proven to be entirely inert, or through substances which are known to be actually harmful to living protoplasm, we must realize that results were not brought about by any direct influence of the remedies, but on the contrary, in spite of them.

The most successful practitioners of medicine have not always been the most profound scientists, and it is equally true that the men who have made the greatest discoveries in medicine have not always been the most popular practitioners. As a matter of fact it is easy to comprehend that the great physicians of the past, as well as of the present, have brought into action this intrinsic conservative energy through an impressive personality and impressive methods of conducting their work, by which they were able to secure the full co-operation of their patients. Full confidence in the physician's ability and knowledge of his case makes the task of soothing the patient's fears easier; making him face the situation calmly and not use up his vital force in useless worry, but to employ all of his energy in helping nature to overcome whatever disease there may be in the organism. Those of us who know Dr. Still will recall the influence of his strong personality and impressive methods.

According to Professor William James, there is within us a law of reserve energy. He says:

> It is evident that our organism has stored up reserves of energy that are ordinarly not called upon; deeper and deeper strata of combustion and explosable material, discontinuously arranged, but ready for use for any one who probes so deep, and repairing themselves by rest as do the superficial strata.

We see this law of reserve energy in action in those who will to live, or recover from disease in spite of apparently insurmountable odds, and in spite of the unfavorable prognosis of conservative physicians. On the other hand, we often see those who may be termed "quitters," who lose hope and give up the struggle upon meeting the first formidable resistance. It is here that the physician of strong personality turns defeat into victory by preventing this discouragement from sapping the patient's powers to call forth this vital resistance to overcome disease. Osteopathy is essentially physiological, rather than psychological. We have learned our lesson well and have placed mechanical therapeutics upon a higher plane than it has ever occupied before. Yet, we have failed to secure that full measure of respect and confidence due the intrinsic value of the osteopathic principle and our educational standards.

The success of osteopathy has been the means of developing a host of imitators who are using the principles of osteopathy in a crude form with more or less success. This has both a cause and an

effect. The cause is our own fault. We have failed to convince our patients that osteopathy is not the simple thing that a superficial observation would seem to indicate. We have failed to employ all of the methods of diagnosis that we have been taught and are within our reach, and we have failed to put that individuality into our work which the people have a right to expect of educated and trained physicians. We have relied too much upon the fact that any kind of manipulation does some good. The effect is that too large a proportion of our patients fail to differentiate between osteopathy and routine systems of manipulative treatment that may be taught in a few months, and practiced much the same as massage and the Turkish bath.

What does the modern public demand of a physician? Let me quote a member of the Pennsylvania legislature: He said: "I do not care whether a man gives big pills or little pills, or whether he gives pills at all or not, what I want is a law that will determine that the applicant for a license has a thorough knowledge of disease; he may then use any means he sees fit for curing it." I feel that this is exactly what the people demand of a physician.

We as a profession are measuring up to this requirement. Too many of us are putting the cart before the horse by passing a beautiful examination in therapeutics, but failing miserably when it comes to convincing the people that we have been trained in detecting all phases of disease, and that we are competent to make a complete diagnosis and a reliable prognosis. The medical profession has done its best to convince the public that we are not physicians, that we are without technical training, and that osteopathy is at best nothing more than scientific massage, and it is a sad and undeniable fact that some of our number so conduct their affairs that their patients fail to see any reason for changing this medical rating.

What is wrong, and what is the remedy? The fault certainly does not lie with our colleges. They are fully equipped with laboratories and other apparatus for developing well rounded physicians; entrance requirements and length of course meet the requirements of the most exacting state laws, and our graduates have no difficulty in passing the most rigid state board examinations. The cause must be that most human of human factors—carelessness.

Let me give you an illustration of how this thing works out: A physician friendly to osteopathy tells the story of six of his friends who entered into a conspiracy to investigate osteopathy. They each consulted in turn the same osteopath and complained of different ailments. They each went through an examination and a treatment, then met to compare notes. Their conclusion was that they had all received exactly the same treatment. Aside from the fact that this was a most unfair and unscientific investigation, and the probability of error on their part was exceedingly great, we must admit that this is the manner in which first impressions of osteopathy are usually formed. I have no doubt that the essential facts of this story are true, and these men were perfectly justified in their conclusion that this particular osteopath was not a physician. What a different story this would have been if the osteopath had proven to them by the classical tests that they were not suffering from these various diseases, or possibly even proven to them that they were suffering from no disease at all. This man failed in his duty to himself and to his profession.

How is the public to differentiate between osteopathy and the host of "just as good" manipulative systems that have sprung up in recent years? Unfortunately for us, the public is too busy with its own affairs to think much about the matter. It remains for us to so conduct our examinations and give our treatment that each patient leaves our offices thoroughly impressed with the fact that he

has consulted a scientific physician, and has not had a rub.

I have known some practicians who say to their patients, "Now don't tell me anything about your case, let me tell you." This may be spectacular but it is not good practice. After a few passes up and down the spine, he finds with considerable self-satisfaction that the patient is suffering from "stomach trouble" or some other kind of "trouble" as the case may be. Perhaps he is and perhaps he isn't. If the patient denies the allegation he is told, that if he hasn't it now, he will have it some time if certain lesions are not corrected. This seldom means much to the patient, and he at once gets a false impression of what the examiner is driving at.

Supposing lesions are found in the middle dorsal region, is "stomach trouble" a satisfactory diagnosis? Some intelligent patient, or as referred to above, a physician in disguise, may ask "Is this atony, dilatation, catarrhal gastritis, ulcer, tumor or cancer?" Supposing you were required to report to a casualty company, testify in court as to the physical condition of the patient, or make out a death certificate, a diagnosis of "stomach trouble" would not be acceptable. A diagnosis of "stomach trouble," "heart trouble," or other kind of "trouble" is a term used only by the ignorant to cover his lack of knowledge of the real condition.

An osteopathic examination should begin with a statement of the present condition of the patient in his own words, and without too much coaching on the part of the physician, for fear of influencing the patient's mind to favor some preconceived idea of the examiner. Notes should be made of the points made by the patient. These notes should be made in a book kept for the purpose, and by an assistant if possible, rather than mental notes, better to impress the patient with the importance of his case, the personal interest being taken in it, and as a record for future reference.

Points made by the patient will suggest further questions regarding the personal history and family history, which should be obtained as completely as possible. During the time this interview is going on the examiner should observe the general characteristics of the patient, his gait, manner of standing, sitting, rising from a chair, the color and other characteristics of the skin. All of these have an important bearing upon the final analysis. Careful inquiry should be made regarding age, occupation, station in life, and if the examiner be also a surgeon, he will probably inquire as to the amount of income tax paid by the patient. In women, the regularity, profuseness and attendant pain of menstruation. If married, the number of pregnancies and miscarriages and their sequelae should be ascertained, because of their important bearing upon the symptoms complained of.

The use of tea, coffee, alcohol, tobacco and drugs should be ascertained because of their relation to neuroses, heart and arterial diseases and sclerotic changes in stomach, liver and kidneys. The object of this portion of the examination is to get a clear conception of the origin and course of the disease up to the present time and to locate any exciting or predisposing causes, and to learn whether the condition developed abruptly or gradually. Careful not should be made of the mental state, as to memory, judgment, depression, excitement and irritability.

The external appearance of the eye should be noted for the pinkish appearance of the sclera so suggestive of astigmatism. In all suspected brain, spinal cord, kidney or arterial disease, a careful ophthalmoscopic examination should be made. This requires considerable skill and experience, and if the examiner does not feel competent to do this himself, the patient should be referred to an occulist. The teeth and tongue show important indications of the state of digestion.

Litmus paper will show an acid condition of the mouth. If defective teeth are found, immediate attention should be advised. A light should be thrown into the nose and throat to locate possible adenoids and diseased tonsils. An examination of the pupillary, patellar, Babinski reflex and ankle clonus will tell you at a glance the condition of the upper and lower motor neuron.

The classical methods of inspection, palpation, percussion and auscultation will show the condition of lungs, heart, stomach, liver, spleen, intestines and kidneys. It is not to be supposed that a complete examination of all of these organs is to be attempted at the first interview, or in every case at any time. There are special indications which are too numerous to take up here, which will determine when a complete examination of an organ should be made. Every office should be equipped with a full set of instruments of precision, such as the ophthalmoscope, stethoscope, sphygmograph, sphygmomanometer, endoscope and X-ray and whether indicated or not by a superficial observation, they should be used in every case where there is the slightest doubt of the accuracy of other methods. Laboratory analysis of urine, blood, intestinal contents and other secretions should be made and every known means should be used that will add one fact to the data, which upon analysis, will show conclusively the physical condition of the patient.

After determining the condition of organic life, the question of *why* naturally comes up. Here is where the superiority of the osteopathic over the regular medical diagnosis must be clearly defined, and proven to the satisfaction of the patient.

We now proceed to the examination of anatomical perversions and trace out for the patient the intimate connection between cause and effect. Charts and models should be used for this purpose, and if properly done, no intelligent patient can fail to realize that he is in the hands of a physician who has not only found everything that has been found by any other physician, but has found a logical cause for the condition which other physicians have not even thought of looking for. The difference between the skilful and mediocral diagnostician is the ability to find what others have overlooked.

You say, this takes time; yes, but have you ever tried it? It is the best investment you ever made, and you will find that intelligent people are willing to pay for intelligence. Even if you charge nothing extra for your examination and diagnosis, if you have impressed the patient that you thoroughly understand your business, sufficiently to insure his complete co-operation, you have roused a curative factor, which combined with specific osteopathic technique, will surely bring success.

If you have educated your patients to expect a certain amount of time at each visit, gradually wean them away from the idea that the whole time must be devoted to manipulation. An occasional re-examiation should always be made to not progress, and to impress the patient that you are still interested beyond the point of rushing him in and out as quickly as possible. Give him something to think about and to do during the intervals between visits. Instructions as to diet, exercise, rest, etc., given while treatment is going on are usually lost, and should always be given with the patient seated comfortably and his mind at attention.

The common practice of selling a card good for so many treatments, the patient being allowed to decide when the treatments shall be taken, is only mentioned to be condemned. This is a method employed by the cheap restaurant, the manicure and the Turkish bath, not by physicians. The physician is being paid for knowing when and how the patient should be treated, and should adopt a more dignified method of conducting the business end of his practice.

The subject of educational literature is too large to be discussed at this time, but I want to mention one piece of literature that should be on the table of every practitioner, and that is the annual catalog of his favorite college. A glance at the curriculum of any of our colleges should convince the most skeptical that osteopathic educational standards are second to none.

Another phase of medical practice which has been too much neglected by our profession is the consultation. Many times patients and their friends can be satisfied by calling in some one to either verify our findings, or add new thoughts to those already known.

The mutual confidence shown by the consultants will also be a means of bringing us closer together, and will do away with that little exclusiveness shown by too many of our profession.

Here is a place, also, for the practice of real professional ethics. Not only the kind that we pass resolutions about, but the kind that is dictated by the conscience of every true gentleman in his dealings with others as man to man. This quality of justice in dealing with our patients and our fellow physicians should be inherent with us. If it is not, and cannot be developed by education, I fear that all of the codes laid down by our professional bodies must come to naught.

Friends, this is the thought I want to leave with you in closing: However high the standard of the personal conduct of your professional affairs, raise it still higher. Throw away that barber's uniform, and vibrator, and other barber-shop equipment, and practice osteopathy as taught by Dr. Still, and elaborated later by our colleges.

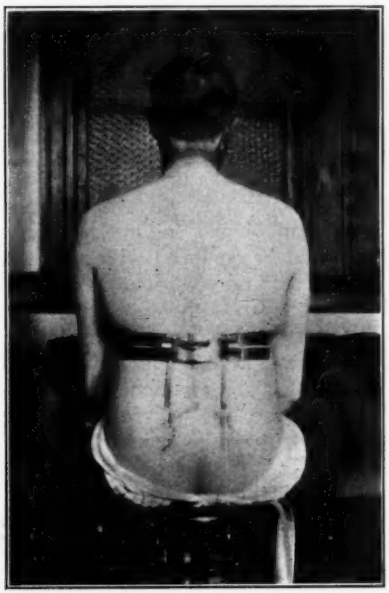
By securing the full respect and confidence of public opinion through a high standard of professional efficiency, nothing can prevent your maintaining your rightful position as scientific physicians.

Flanders Bldg.

DESCRIPTION OF THE ILIOMETER

Frank M. Vaughan, D. O.
Boston, Mass.

In view of the increasing desire for standardization of osteopathic methods, I take this opportunity to present to the profession an instrument I have devised to measure the amount of deflection in innominate lesions. This instrument, which I call an Iliometer, I constructed

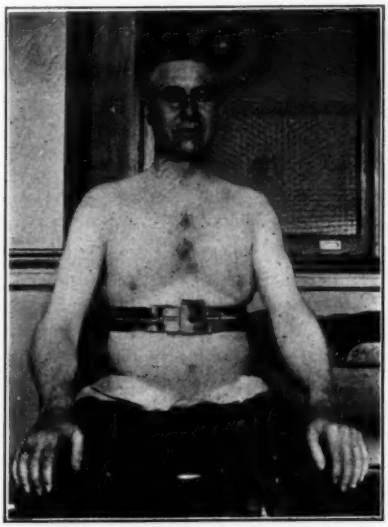


in 1906. Since that time I have used it in my practice for cases where I wished to make particular study of the lesion, or where an accurate record seemed to be particularly desirable, as in protracted cases, or in medico-legal cases.

The instrument is a flexible metal band about two inches wide and forty inches long. On this straight-edged band are mounted two spirit levels and two sliding metallic tapes for measuring perpendicular distances; the band itself being accurately graduated to measure horizontal distances. This band is

clamped around the body at a convenient height above the pelvis, centered, and leveled—then the measurements are made.

In brief, the method is as follows: the center of the spine is determined by means of a plumb line between the buttocks, the posterior superior spines found, and the points marked with a skin pencil, the Iliometer leveled with the zero mark on the band placed over the center of the spine. The tapes are then moved out on the band until the



superior spines are directly perpendicular to them, the tapes drawn down, and the measurements recorded; also the distance each tape has been moved laterally. In this way you have the comparative heights of the iliac spines and the relative distances from an absolute center. The above cuts show the patient and instrument in proper position for measurement.

I do not wish in this brief description to consider innominate lesions in a comprehensive manner, but the use of the Iliometer brings out several interesting facts. I find that although the axis of rotation for possible deflection may always be the same in a given case, it varies considerable in different cases, making it possible for an innominate to be anterior without any upward deflection. In the case which was photographed for this article the right innominate is in a state of partial correction; the posterior superior spines are on an exact level with each other, but the right spine is 3-8 inch farther from the median line than the left.

To the osteopath who keeps careful records of his cases, to make definite diagnoses of conditions found and to measure from time to time the results of his skill, I dedicate the Iliometer.

This instrument is not covered by a patent, as I wish the profession to have free use of it. Anyone who wishes to copy it may do so.

359 Boylston St.

Photos by Dr. A. M. Lane.

(*Continued from page 8.*)

what to a large extent determines the character of the disturbance. In other words, an understanding of structure and function must necessarily be basic to a thorough appreciation of the osteopathic lesion. Still, with this knowledge partially formulated, every case is more or less a law unto itself. This is more true with the so-called localized lesion than it is with the curvature. Certain areas of the spine will conform to certain physiologic laws when the several segments are moved *en masse;* but in addition to this, every vertebra is a law unto itself, and as a consequence the sum total of malpositions that may arise is, when considered in the aggregate, a fairly bewildering maze. However, keeping in view that most lesions are some form of rotation and precisely diagnosing the same, a fair understanding may be obtained in the individual case.

There is just as great a difference, relatively speaking, between a muscular lesion that is straining and tugging at its moorings, and a severe osseous lesion, wherein there is marked rotation and fibrous involvement of its articular ligaments, as there is between a functional

and organic curvature. The technique indications are equally as different. In the muscular lesion soft tissue work will fully suffice. The same is true, but on a greater scale, with the functional curvature—regulating the poise, springing the spine toward its moral alignment and corrective exercises, with attention to general nutrition, will commonly do the work. But frequently in the osseous lesion, that is, if it is a severe chronic one, a careful study of position and relation and extent of pathologic involvement is demanded. The adjustment may be made in record time, but more likely the time element will be important, owing to fibrous involvement. Careful, persistent and specific work, extending over a period of time, from the very nature of the pathology, will be demanded before either anatomical (structural) adjustment or physiological (functional—motion) correction can be established. Likewise, in the organic or structural curvature, treatment is vastly different from that in the functional curvature; for here rotation of the vertebrae and a marked pathology of muscles, ligaments and bone must be intelligently and specifically met. The Abbott method, with which so many are familiar, is an excellent example.

It all comes back to the point of knowing when we have a functional or structural lesion, the same as knowing when one is dealing with a functional or structural curvature. Pathology and therapeutics are widely different in these instances. The ability required to take care of the functional lesion is small compared with that required for the organic; but the same is not equally true in the diagnosis. Both differential diagnoses are frequently puzzling and the pathology of the one may graduate into the other.

The pathology of the lesion is a many-sided affair and no doubt the intricacies and finer processes vary in every instance. There are a few points we wish to emphasize here:

(1.) The average lesion is not an extensive affair structurally. It is here so many fall down with their diagnosis. They are looking for a rotation that can be seen from a distance, instead, as is commonly the case, a slight deviation only, one which must be felt to be appreciated. The binding and restriction of structures and the impacted effect can be elicited in no other way than by a developed tactile sense. And when this is detected, it must be studied as to exact position and relation, as well as to restriction of motion. In addition to all of this, its relationship to contiguous vertebrae, as well as to the spine as a whole, must be noted. It is not always an easy matter to determine in two or more, or a series of lesions, which is primary and which secondary, just as in some cases of compound curvatures. Indeed, probably in some instances, in both a series of lesions and curvatures, the entire spinal disturbance arises at the same time, that is, synchronously, all of it being part and parcel of the same structural involvement.

(2.) A lesion, from the very nature of the interrelated parts, cannot be like a brick out of position in the wall, and the correction of it simply the mechanical replacement. This is rarely true, although definite mechanical principles should be followed in order to replace with a minimum of irritation and shock. There necessarily must be a certain torsion and strain and stress of the living tissues when the vertebra is rotated. There is a graduated effect upon contiguous vertebrae. There is tension upon the transverse section of the body corresponding to the disturbed vertebrae and this graduated to the segments above and below. A certain slack is taken up at certain angles and the normal tone of tissues released at other angles where attached points are approximated. There are definite compensatory changes in a greater or less part of the spine that reestablishes equilibration. Thus, the gravity line is shifted. All of this determines pathology and consequently varies in ac-

cordance with neuro-muscular and vascular location. Hence, with these facts, as with the former paragraph, one's technique cannot be fully outlined without taking them into consideration.

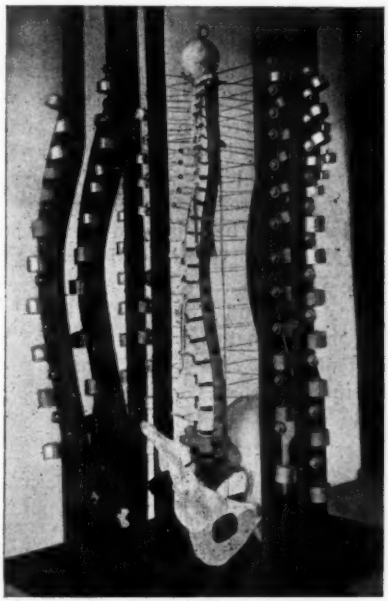


FIGURE 1. Standard or normal. All pictures are taken from the same angle and distance.

(3.) The pathology, the perverted physiology, is always in a state of flux in accordance with activities and functions of the parts and the condition of viscus and general bodily effect, provided that nature is unable at once to cope with the maladjustment or pathologic involvement is not rapidly progressive. It requires time to bring about pathologic changes, the damage and change are not the result of a moment. Fibrous changes and muscular contractures are the result of time and no doubt influence and establish more marked rotations and impactions. It also requires time for the nerve fibres and vessel walls and viscera to become diseased. These facts should be remembered in diagnosis and prognosis and therapy.

(4.) The ligamentous effect is a most essential one in determining permanency and rigidity of a lesion structurally. The fibrous changes are pronounced, and no doubt are frequently progressive, which further adds to rigidity. In the average lesion there is still motion, but more or less restricted. The affected articular ligaments (experiments frequently show one side particularly) ,through the strain upon the contiguous segments, affect nerve and vascular channels. Through the nerve blockage and vascular disturbance we get the nutritional effect to nerve centers and this is what renders permanent, to a greater or less degree, the pathology of tissue and viscus. We mean by pathology the effects due to a subluxation, for example. In the average case, pressure at the spinal foramen exit is only part of the picture. There is no special pressure upon nerve or vessel tissue here, only in degree as strain is brought upon the encased fibrous tissue of the exit. There is a certain impingement on numerous nerve tissues of the segment, particularly upon the afferent fibers, intimately connected with the joint structures and the tissues that move it. We have described the physiology in other writings. The lesion must be somewhere between cord and periphery. It is a most complicated disturbance physiologically. The physiology of joint movement and the interrelationship of complicated nervous and vascular systems, with their all-important bearing upon tone and growth and repair, constitutes an integral part of the bodily

NOTE:—The accompanying photographs represents a pliable human spine made fast above and below by the side of the gravity line which is not changed. On each of the four sides of the spinal column is an upright with pulleys through which wires run from each vertebra to a weight attached on the outside of the upright. These all pull equally in the four directions and hence hold the spine free to move to accommodate itself to changes in innominate or lumber vertebrae. The principal feature is to show the changed relation between the spinal column and the gravity line brought about by the osteopathic lesion. It is difficult to represent these these changes by the photographs but the caption under each cut will tell the changes that have taken place in the flexible spine.

mechanism. In a word, pressure upon the spinal nerve at its exit can be no more the sum and substance of osteopathic pathology than pressure or inhibition on occipital nerve represents the essence of osteopathic adjustment. Just take the mounted spinal column and study the lesion, better still, study it on the living animal where one can dissect it afterward,

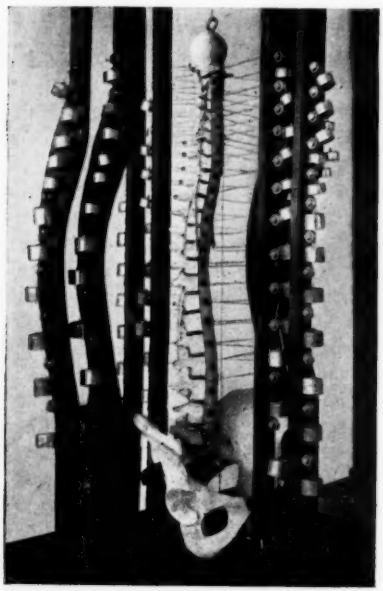


FIGURE 2. Left innominate tilted upward and backward. Note change in gravity line and effect on anterior common ligament. This rotates fifth lumbar spinous process to left. In living subject the fifth lumbar, through compensation, would probably be found rotated to right, with another reversed compensatory change between third and fourth or fourth and fifth. Conversely, as we have repeatedly mentioned in this department, a fifth lumbar rotated to right (spinous process) would simulate an innominate upward and backward. In an innominate forward and downward, the reverse would be true.

No doubt inclination of the pelvis, as we all know, effects the static condition; in fact, to arrive at the normal for an individual, the static condition from the feet up should be studied. Lumbar lesions and lumbar curves are a most fruitful field for study. Basically, the lumbar curve develops as the child learns to walk, so that the weight of the body may be carried over the lower extremities.

and specially note in the light of physiology of the development and growth of the nervous segment what can occur, and does occur, when the lesion moves from a sixteenth to thirty-secondth of an inch, which probably includes the range of many lesions. (We respectfully ask the reader to measure the range of possible movement of individual joints in a series of spines. In a few possible lesions the range will be greater. There is considerable difference between the lumbar, dorsal and cervical areas.) One's conception of pressure *per se*, as well as of technique, may be somewhat revolutionized. No doubt extensive lesions do occur where pressure at the foramen exists, adhesions form and intervertebral discs absorb and all that, but that does not constitute the pathology of the initial process in the majority of instances.

One word more relative to the vascular and nervous features of the cord. We have spoken of this in other writings. The following is supplemental. Bury, in his "Diseases of the Nervous System," 1912, states: "It is probable that many diseases of the spinal cord are more closely related to vascular lesions than hitherto has been demonstrated." Allen, in "Experimental Spinal Lesion," *A. M. A. Journal*, September 9, 1910, says: "I have been surprised at the amount of ascending and descending degeneration that I have found by the Marchi method in the spinal cord of dogs which had recovered their motor power complete." The osteopathic significance of these statements is really considerable.

EXPERIMENTAL PATHOLOGY

The pathology of the osteopathic lesion will always be of perennial interest. We have discussed the nature of it a great many times. In our experimental work for several years we have given it special study. We have placed great emphasis upon the changes that take place in the articular ligaments. During the past year we have conducted a series of experiments upon rabbits and dogs to deter-

mine, if possible, what occurs to the vertebral tissues when a repeated irritative treatment is given. This was undertaken at the suggestion of Dr. Teall. Its technique importance cannot be otherwise than illuminating.

For a typical experience we will first describe the findings on two dogs. These animals were healthy subjects. We kept them under observation for five months. We produced a rotation between the second and third and the third and fourth cervicals, respectively. This was done very easily and without anesthesia. Simply placing the animal upon his back, and with hand around the muzzle to use as a lever and to prevent injury to the operator, with the other hand localize the field of operation. If a lesion between the third and fourth cervicals is desired, a firm grasp about the vertebrae below and including the fourth is executed, while the hand around the muzzle rotates (with a little traction) the lesion in the desired direction. A very little practice will accomplish the work, and the injury to the animal is slight. The leverage is carried out rapidly and to the point that the parts give and "pop."

This "treatment" was given once and twice a week. It was always the same operation. Malposition and restricted motion and contracted deep muscles could easily be detected and tenderness elicited. This was continued for two months. There was no noticeable change in the health of the animals. One of them had developed a goitre about the size of a medium sized hen's egg. Treatment was discontinued for a month. In the one, the goitre and lesion, third and fourth cervical, remained. In the other, nature adjusted the lesion.

The operation was resumed; in the goitre animal, to adjust the lesion. In a month the goitre reduced one-half, but the restricted motion in the lesion was not entirely overcome. Next the operation was reversed to see if the thyroid gland would enlarge again, but for two months there was no noticeable effect. In the other animal, the lesion caused no apparent changes, other than local; but in addition, in this animal we lesioned the third and fourth dorsal and within a week there was considerable loss of flesh. The dorsal lesion was adjusted and immediately there was a gain in nutrition, but it required a month to fully regain the loss.

The special feature we were interested in in this series was the local lesion effect upon the joint tissues. In the chronic lesion even after severance of all the muscles, even those deeply contractured, there still remained the restricted articular motion. In both of these cases, the capsular ligament of one side only was involved. This was the side toward which the lesion was rotated, that is using the spinous process as a landmark. Clinically, it will be recalled, we usually find the greatest tenderness on this side. Now, the really interesting feature is revealed, and one we have noted many times in the past nine years: There is motion at the

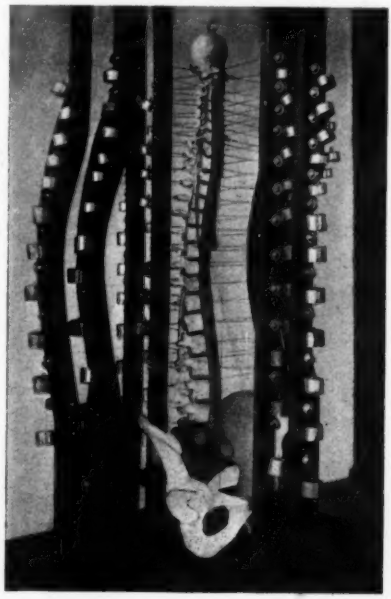


FIGURE 3. Fourth lumbar rotated to right, that is, spinous process to right. Compare gravity line and anterior common ligament.

damaged articular joint, but considerably restricted; the capsule is thickened, frequently twice as thick as a normal one; adhesions are not present, the joint surfaces are uninvolved and the synovial fluid is present. There is no jamming of joint-surfaces or doubling under of the capsular ligament. There is a distinct fibrous thickening of the ligament. In severe cases there will be found some disturbance of the anterior common ligament and the disc. This is just what one would

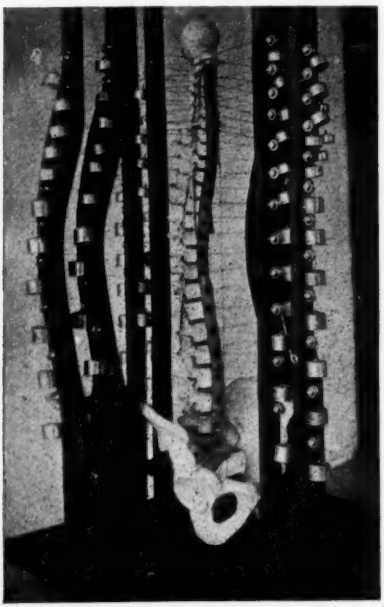


FIGURE 4. Tenth dorsal rotated to left. Compare the same points as above. For clinical simplicity we refer to the rotation of the spinous process; of course the body of the vertebra is in the opposite direction. The greatest change takes place in the body. Lesions should be studied in conjunction with the movements of the spine as we outlined near the beginning of this article.

expect in a traumatic effect. In injuries more than moderate, the damage unquestionably would lead to arthritis and ankylosis. We have had this happen and reported it in other writings. These lesions should not be confused with conditions that may arise from such a disease as rachitis, where resistance is greatly lowered and the bony tissues soft and abnormally plastic.

The initial damage in acute cases we have often noticed, involves the segment muscles as well. After two or three days considerable of the muscular contraction subsides. Autopsy examination does not usually reveal lacerated muscles. The strain and tension probably accounts for considerable of the immediate muscular contraction. Every practitioner has repeatedly observed that frequently it is impossible to immediately adjust a fresh lesion, and that after two or three palliative or preparatory treatments the osseous parts can easily be apposed. No doubt there is also a nervous element as well as a traumatic factor in the muscular contraction, for in the chronic lesion the nerves to the contractured muscles are found degenerated and the muscles themselves undergoing a myositis.

To return to the chronic lesion: The little click that we hear in these cases where the parts are maladjusted and the movement restricted is due, at least frequently, to the damaged ligament holding or retaining the joint-surfaces at an angle and not allowing them to become normally apposed. Thus, the abnormal tension or lack of freedom, due to the ligament, does not allow the surfaces to "play true." This would be the case also in atonic ligaments or in any instances where the tissues entering into the joint tension are not truly or evenly balanced. Thus a click or grating of a joint surface does not necessarily mean a deposit or roughening. Then, there is, also, the conditions of the unduly flexible spine and the hypermobility between two vertebrae, to be studied in this connection, and which was clearly outlined by Dr. F. P. Pratt in December, 1910, *Bulletin*.

In our opinion there are several technique lessons to be learned here. A force that can be utilized for good may do harm if not correctly applied or too frequently given. To obtain the maximum value from a technique method, specific

execution is necessary. There is unquestionably an infinite variety of lesions: By this we mean gradations in the pathology. Here we have been considering a moderate lesion without extensive changes or compensatory mechanical effects upon contiguous vertebrae. The pathology of structural curves present other features. Within all probability we do not take into account sufficiently the muscular and ligamentous balance of a segment and its relationship to the spine and even the entire body. Many of the immediate adjustments are simply secondary or compensatory lesions that present no special pathology other than mere lack of balance. The rotated vertebra will, to a slight extent, carry the vertebrae above it in the same direction, although gravity and muscular balance will partly compensate. When we attempt to adjust the chronic primary lesion we have plenty of trouble and it frequently takes a considerable period of time owing to the nature of the ligamentous pathology. In these cases specific work is the first and last word. The role of the acute lesion is another story, e. g., the contractions and lack of muscular balance concomitant with a "cold." No doubt severe and protracted infective processes, as may occur in a cold, insofar as the muscular tension is concerned, can easily produce osseous lesions. The resultant muscular and ligamentous "grasp," whether from acute conditions or traumatism, can readily lead, through nervous and vascular involvement, to severe chronic disturbances.

In our opinion, one of the most valuable methods to thoroughly appreciate anatomy is by dissection of animals. Human dissection is invaluable and necessary of course, but there is a vast difference in the appearance of a tissue that has been lifeless for weeks or months from the fresh, normal tissue. The close and intimate relation of muscles, ligaments and bones, especially the clothing of a joint-structure, the vascular fluids, the nerve fibers, the fascia, the connective tissue, can be valued to its maximum only when it is seen in a fresh condition. Then, to rely, as many do, upon textbook descriptions too often accentuates the componet part at the expense of its relationship to other parts. The perspective and concatenation is more or less lost. Too much of anatomy is purely arbitrary knowledge, owing to the emphasis placed upon separate parts instead of realizing that a segment or part should

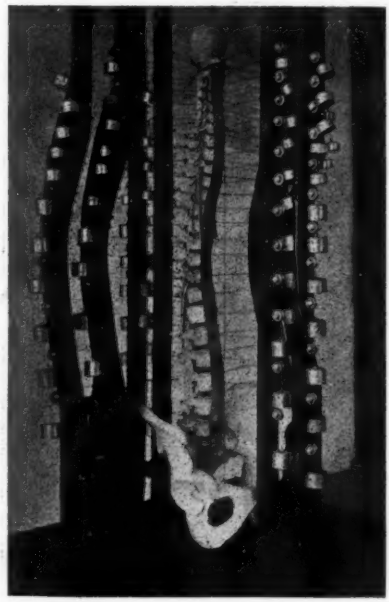


Figure 5. Fourth dorsal to right. Compare with the standard.

be viewed from the standpoint of the sum total of both its structural and functional factors.

We lesioned five rabbits, either between the second and third dorsals or between the third and fourth. Making a fixed point of, say the third dorsal, with the animal upon the belly, and then rotating the locked spine, from the fourth down, upon the upper section until the joint gave or "popped" was the method pursued. For example, rotating the lower spine to the right always throwed the

strain upon the right articular ligament as revealed at autopsy, the left being practically normal. This is in keeping with clinical evidence in most instances, the greatest tenderness being over the articular facets towards which the spinous process is rotated. However, one should not confuse the practical indications for readjustment. In such an instance one would exert a thrust upon the left transverse process, using this process as a lever, or against, laterally, the right

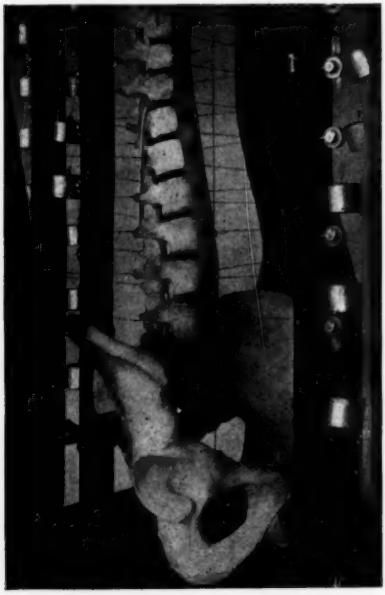
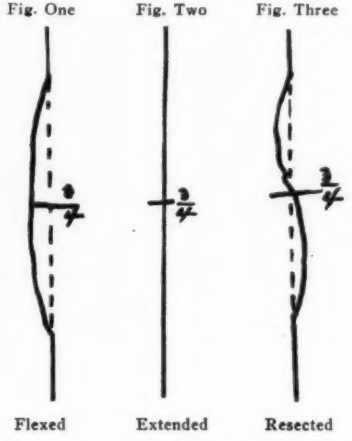


Figure 6. Standard. The following three taken from the same angle, but not quite the angle as the above.

side of the spinous process when it is used as a lever, after the field is prepared and the spine in a suitable position. Readers of this department will recall these methods.

In these animals the same pathology is revealed as given above in the autopsy of the two dogs. The one articular ligament, the capsule, was thickened, the deep muscles slightly involved, the intervertebral discs normal. The animals were under observation from three weeks to two months.

In these cases an interesting mechanical feature was noted. With the animal alive and about as usual, the lesion, the rotation, and the muscular contraction could be palpated readily. After killing the animal and removing the skin over the lesioned part and the spine extended, a slight lateral curvature to the left, maximum convexity at point of lesion, was noted, figure one. Flexion of the spine obliterated the curve, figure two. Resection of the spine with all tissues intact from seventh cervical to seventh dorsal was next carried out and the resected portion assumed a double lateral effect as outlined in figure three. In one case of the series, where the lesion was specially marked, a double lateral curvature was revealed by extension in lieu of the single lateral curvature as in figure one.



These are functional curves probably due to asymmetry of muscular and ligamentous tension or balance. In other rabbits with a lesion reversed the curvature phenomena was also reversed. It would seem that similar conditions would be found in clinical practice wherein asymmetrical immobilization of articular processes occur. Probably this accounts for a certain percentage of functional curvatures, and if pathological involve-

ment increases, a structural curve may develop. It is true the structure of the human spine is somewhat different, but, nevertheless, the underlying principle would be applicable. The gravity effect upon an upright spine would be greater. the maintenance of the center of gravity through muscular and ligamentous strain and stress would be bound to malposition the segments. The technique lesson is evident—specific application.

Probably sometime we will know more of the mechanics of spinal equilibrium. The movements of the spine as a whole and its co-ordinates would certainly prove a fruitful field of investigation. Then each joint should be considered separately. There is a wealth of material that pertains to neuro-muscular development and equilibrium in its relation to spinal architecture to be interpreted.

* * *

The gravity line has been mentioned several times in this department. No doubt it has an important bearing upon technique problems. Reference to the different anatomies will reveal considerable variance in the position of this line. For example, there is quite a difference in "Clark's Applied Anatomy" and "Piersol's Anatomy." In the following photograph, the line of gravity is different from either of the above anatomies. Evidently the several anatomies have struck an average. No doubt the line of gravity varies, owing to obvious reasons, in different individuals. In the mounted spinal column that we present, the gravity line passes slightly back of the odontoid process, along the posterior edge of the body of the third dorsal, anterior to the tenth, and posterior to the bodies of the third and fourth lumbars. In the picture it should be noted that the view is taken approximately at an angle of forty-five degrees to the front of the spine.

Now, the above is the line of gravity of a spinal column, which must not be confused with the line of gravity of the living body. Some time ago, March 26, 1910, Reynolds and Lovett published an instructive article in the *A. M. A. Journal* on "An Experimental Study of Certain Phases of Chronic Backache." Their observations show "that in the erect position the center of gravity of the body lies in front of the ankle-joints, which are held from dorsal flexion in this position by the gastrocnemius muscles. The center of gravity lies also in front of the knees, which are similarly held in position by the hamstring and quadriceps ex-

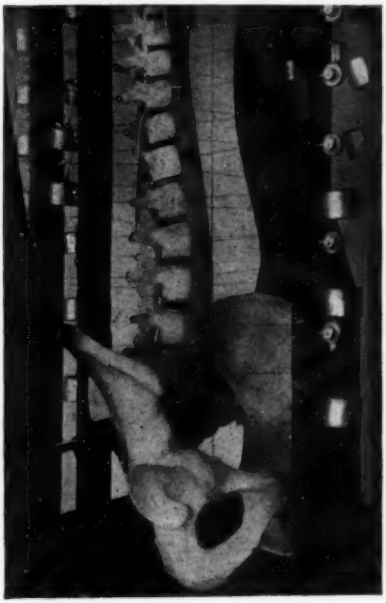


FIGURE 7. Same lesion as Figure 2.

tensor muscles. The center of gravity lies also anterior to the sacro-iliac joints and most of the vertebral joints." Thus, in the erect position, the greatest strain is brought to bear upon the hamstrings, glutei and erector spinae muscles.

Undoubtedly every osteopath appreciates how essential it is that the tone of the posterior musculature approaches the normal in order that the antero-posterior balance in the upright position may fully meet the anterior position of the center of gravity. Either a lax or rigid musculature, or osteopathic lesions, or abdominal

and pelvic disorders may disturb the balance with consequent train of symptoms. "If, however, for any reason the center of gravity becomes displaced forward, the strain on the posterior musculature necessarily becomes increased throughout, because the vertical stress at each level is determined by the horizontal distance of that point from a perpendicular dropped from the center of gravity, and, if this moves forward, the strain increases in proportion to the increased horizontal distances. So, too, other things being equal, the points farthest away from this perpendicular suffer the greatest stress."

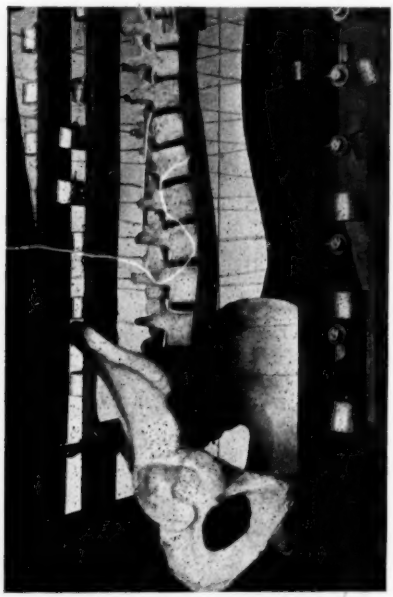


FIGURE 8. Third lumbar to right. Compare Figures 6, 7 and 8, especially the gravity lines. Of course in the living subject there would be an effort of nature to bring the gravity line directly over the line of support. This would mean strain and stress and the development of a certain pathology.

The following photographs show the relationship of the osteopathic lesion to the center of gravity. This depicts, we believe, an important phase of the mechanical or static origin of certain conditions arising from the osteopathic lesion. Of course, in clinical practice, there are many factors to be considered—poise, muscular integrity, maladjustments, trauma, weight, viscus disorders, reflexes, etc. A series of pictures could easily be given for an innumerable variety of lesions, but the following illustrates the principle. There necessarily must be an intimate relation between the lesion and the movements of the spine.

The spinal column shown is a mounted Fryette spine attached to a pelvis. There is a solid base with eight uprights, two on a side, and securely fastened at top and bottom. To each vertebra four wires are attached—anteriorly, posteriorly and one on each side, passing horizontally over the pullies in the uprights. Weights are attached to the pullies. The larger weights are four ounces, the smaller two ounces. The pelvic axis passes through the second sacral vertebra, having considerable freedom of play, but controlled by set-screws. The perpendicular wire to the right of the column in the cut represents the line of gravity. We should remember that the line of gravity represents the concentration of forces of the body weight. The lines of stress are represented by the relation of the center of gravity and the bearing points.

If nature is unable to cope with a vertebral twist, the tendency of the vertebra is to follow the line of least resistance, away from the greatest weight and pressure. Compensatory changes imply that the center of gravity is constantly striving to assume a position over the center of support. Equilibrium and balance is an intrinsic property of the upright living spine, as Lovatt says, and is an instinctive tendency.

In a structural curve, the greatest deviation is in the column of bodies. The plasticity of the discs and normal action of the ligaments allows a certain amount of displacement. But when the parts are moved beyond the normal confines and functions of the joint structures, and remain in a more or less state of malposition, a lesion is the consequence. When

the disturbance is greater, then osseous deformity may take place and a structural curve is the result.

It is the joint planes that determine the difference between lesions of the cervical, dorsal and lumbar regions. In chronic cases the ligaments, particularly the articular and the anterior common, are thicker, as we have shown, on the concave side, or the side toward which those surfaces tend to approximate. The muscles tend to degenerate or they may atrophy, that is those that are disused, or the nerves and vessels to the muscles may be so affected that a myositis takes place. This condition of ligaments and muscles should be remembered in technique procedures, for unquestionably it is one of the factors that requires much time to correct. Then if there is disc atrophy and bone deformity, the problem is further complicated. Careful clinical and experimental observation reveals that a lesion, broadly speaking, in the making is often more or less a slow process, both in the ultimate mechanical placement and in pathologic changes of structures.

From a simple "slip" between two vertebrae that is causing slight involvement of ligaments and more or less irritation of segmental muscles to a lesion that comprises both static and structural features is a huge field. Then, again, from the individual structural lesion to the structural curvature is another huge field. Etiology, pathology and treatment must be radically different in all of these cases. For example, the cause and treatment of a single slip may be purely a static problem, not necessarily though, while the structural curve problem may be primarily one of lowered resistance from rachitis and the effect upon the spine simply a result; but, nevertheless, a very important one. It is not always a question of mechanics. Moreover, the mechanics of the one represents absolutely different principles than that of the other. A few experiments, dissections and clinical experiences cannot settle the problem. Much data bearing upon the innumerable possible factors will have to be gathered before the many-sided problem of technique can be thoroughly formulated. The combination of static and structural features are innumerable. Then, again, we must not be confused with the different static relations between man and animals, although many points bearing upon pathology may be elucidated by experimentation similar to the many facts that have enriched physiology.

Sometime someone will thoroughly unravel the pathology of the osteopathic lesion as pertains to osseous, muscular, ligamentous and fascial tissues based not only upon pathologic tissue changes, but in addition from the viewpoints of structural malformations, the mechanics, and the dynamic forces. The borderland between functional and organic changes, and particularly the malalignments, malpositions and malrelations that precede them, contains a world of knowledge. This is a field that has barely been touched.

When we stop and realize that every single case presents an individual problem, when we appreciate that relationship of parts, whether of the body as a whole or of some local part, are always different; that equilibration, poise and posture is individualized; that tone, flexibility and resiliency is also an individual problem; when, with all of this, there is a thousand and more combinations possible that comprise the catalogue of vertebral lesions alone—then does one begin to realize and appreciate a small part of beginning osteopathic pathology. The combinations and gradations are infinite.

The clever technician consciously or unconsciously takes much of this knowledge into consideration.

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Editorials

"THE OSTEOPATHIC MAGAZINE"

At the recent meeting of the A. O. A. at Kirksville, the Trustees decided to begin, as soon as practicable, the publication of a magazine for the osteopathic laity.

In the evolution of osteopathy in its relation to the public it was felt that a unique type of literature was demanded. It is not too much to assume that osteopathy is now a force and factor in the world of affairs. The new magazine will endeavor to give expression to the position osteopathy assumes—so far as it has assumed a position—upon all questions affecting the public health. It will attempt to show the relation of osteopathy to all reforms having for their aim the betterment of the race; to show that osteopathy is linked with all forward movements—physical, civic, economic, social and moral.

In addition, the new publication will, in condensed form, give the really important news of the profession—not the least of which will be the achievements of the Research Institute. It will also make appeal, to those philanthropically inclined, for financial assistance in carrying on the great work of the Institute.

It is hoped, also, to make of this a real family health magazine, giving valuable health hints from the osteopathic standpoint and teaching new truths concerning the prevention of disease. Since the great literary magazines are devoting so much of their space to the exposure of the insidious dangers of patent medicines, the least that could be expected of an osteopathic magazine would be that it should join in this effort, and would it be going too far to point out the danger, in many instances, of prescribed drugs?

It is neither the purpose nor the desire of the Association to displace with the new publication the best grade of the distinctively missionary type of literature, the judicious use of which has been so effective in promoting the interest of osteopathy throughout the life of the profession. The magazine dealing with the broader aspects of osteopathy will not be so directly effective in securing new patients for osteopathic practicians. Indeed, its greatest appeal will be to the recognized friends of osteopathy, those already having an interest in it. It is confidently believed, however, that by broadening the information of such as these, their zeal will be heightened and enthusiasm stimulated to such a degree that the influence radiated from them will inevitably be felt in a substantial way by the individual practicians in increased revenues just in proportion as it is read by their friends and patients.

One of the aims of the magazine is to bind to us in a more intimate fashion the

friends we have and thus, through them, to extend our clientele. It is believed the advertising value to the profession, though a secondary consideration, will be none the less effective because indirect.

The new magazine will probably be named The Osteopathic Magazine, and will be issued monthly under the immediate direction of the Bureau of Publicity. Dr. A. L. Evans has been chosen as editor and a staff of Associate Editors will be selected who are specialists in the various activities of the A. O. A.

As The Osteopathic Magazine is to be, in effect, an official organ to the laity, the greatest care will be used in the selection and editing of matter that appears in its pages. It will be passed upon by specialists in the profession to the end that all errors, so far as is humanly possible, may be obviated.

The new publication will start modestly with twenty-four pages, and will be increased in size as its support by the profession warrants. A great deal of detail is involved in starting this new magazine and the first issue will be deferred until these are perfected and until it is certain that enough material is on hand to assure a sustained interest.

Further announcement of details, and of what is expected of the members of the A. O. A. will be made in the October Journal and in succeeding numbers.

A. L. Evans, D. O.

Miami, Fla.

Referring to the above outline of the magazine from Dr. Evans, we wish to offer a suggestion which he, on account of modesty, omitted.

If the profession wants such a magazine, it wants the best possible magazine of the kind. It can have the best possible magazine only by supporting it. The Association can divert little of its income to the magazine's support. The physician who circulates it among his clientele or in his community will profit most by it. Therefore, it is up to him to get back of its circulation and subscription list. The A. O. A. is making it possible by guaranteeing its fixed charges for a time; it will also send one copy to each of its members; but the profession individually must be responsible for its circulation.

It is to be a layman's magazine. It is to acquaint the man or woman already interested in osteopathy, because it helps sick people, with those facts he or she should know about osteopathy as a school of practice, osteopathy as a reform and educational movement. You want your friends to know that you are a part of such a movement, that it is rapidly establishing clinics, founding hospitals, endowing its colleges, forming organizations for increasing its usefulness to the public, etc. You want the public to know these facts and cease to look upon you as simply treating so many people per day for so much money.

You now have the opportunity to get this vital fact into the consciousness of your community. What will you do with the opportunity? This opportunity, like other opportunities, will come but once. Now is the only time to seize it.

The magazine will be as large, as attractive, as useful as you make it, not as the editor makes it. He will have abundant material and will prepare it to the best advantage, but we cannot circulate enough copies of the magazine to make it worth while unless you make this your business.

Then again, the size of the initial numbers must depend upon the quantity of the advance subscriptions received. Probably most readers by the time the magazine appears will have some mental picture of it. It will be too bad if the maga-

zine does not measure up to their expectations. If it is a disappointment on the start, it commences its career with a handicap which it will be hard for it to outlive and which it need not have at all. If it can have 25,000 year subscriptions made in advance, the magazine will not only meet your expectations, but will meet your needs and be a great lifting power for you and your profession in your community.

Is 25,000 an unreasonable figure to set? The members of the profession—not the members of the A. O. A. only—are the constituted agents of the Committee. 25,000 copies will be considerably less than five subscriptions secured or made by each of these osteopathic physicians. Write Dr. Evans at once and tell him you will be responsible for five or ten or twenty-five or one hundred copies for a year at $1.00 each. When the magazine is ready to appear, send in the names of those to whom you wish them sent. Then at the Christmas time, tell these friends of yours that you are making them this as a present. Really, it is like giving yourself a Christmas present, for you will be benefited, but they will be no less pleased on that account. The chances are that the next year they will renew their subsubscriptions on their own account, and you can go on introducing the magazine to others if you find it has been a profitable investment. Or many of your friends will subscribe and pay for it if you call their attention to it. Act on your judgment as to which suggestion you will make to them. Only act and be the live agent of this magazine in your community.

At the Kirksville meeting there was greater interest manifested in this than in any proposition put before the profession in recent years. In the next issue, it is expected that another announcement will be made of a plan to further interest our friends in osteopathy which will work in with this magazine proposition. But don't wait for that announcement to act on this. H. L. C.

TECHNIQUE

No subject is more deserving of our study than this. To say that the profession is deficient in technique would be unfair, for even after twenty years we are pioneering along this line. The application of the osteopathic principle is not less original than the principle itself. There is practically nothing to follow, although it is maintained that a system of methods very similar to ours was handed down from the Hindoos and Hebrews to the Greeks and Romans, and that these principles have been taught in recognized schools, particularly in Russia and Germany, we seem to have little in common with it. While this system is anti-drug and may be effective, yet we have not been able to find that it recognizes or seeks to find the minute lesion, although it appears to be a remarkable system of physiological therapeutics based on reactions brought about by general manipulations and a very accurate knowledge of the effect of the application of heat and cold; but however effective and harmless, it does not contain a principle upon which a system of medicine can be based, nor does it seem to recognize the basic principle of osteopathy.

The theory of the minute bony lesion as the cause of faulty reactions within the body, and hence the cause of disease, the search for it in diagnosis, and the effort to remove it as the treatment, so far as we can ascertain, is original with Dr. Still. Hence, the study of technique is original and pioneer work. Even so, we

have not made the progress we should have made, and in a sense we have made no progress, for any of us is still satisfied to approach the technique of Dr. Still. Although Dr. Still is a genius along this line, he is a genius largely because of his infinite capacity for work, and all of us who have reasonable mechanical ability and are willing to imitate him in constant work, may approach his standard of technique, and it is largely because of widespread neglect of its study and application that we have occasion now to criticise the technique of the profession.

There is no lack of appreciation of Dr. Still when we say that, by this time, we should have advanced the technique he gave us. We have advanced other lines. We see more clearly our relation to the state; we are meeting the changes demanded in our educational facilities; we are rapidly building up and fortifying ourselves with those institutions which mark us as a profession; but technique —is technique improving?

By this, of course, we do not mean does the average osteopathic physician have a better technique than when he graduated twelve or fifteen or more years ago (though in many such cases, no doubt, there has been no improvement); but the criterion is, is the technique of the recent graduate better than the technique of the graduate of a dozen or more years ago was when he entered practice? In other words, is the teaching of technique further advanced? If not, it is a sad commentary on the work of the profession. If the question were put squarely up to us, we should feel compelled to answer "No." We could wish that we may be mistaken: and there are excuses if the technique taught is not more perfect. but whatever the excuses, they do not minimize the need of technique. At one time the course consisted of instructions in technique and enough study of anatomy and physiology to make the application of technique practical, and the extension of the course has been made to a poor purpose if the much useful work which has been added to the course has been done at an expense of drilling in technique. Once more we wish to repeat, that the graduate of today has a much wider training than the graduate of twelve or fifteen years ago had; but whether he believes more sincerely in the osteopathic lesion, whether he knows better how to find it, or having found it, how to correct it, is a question upon which we have doubts.

Of course our opinion of this situation may not be correct. For the good of the profession we hope it is not correct; but we believe the view here stated is generally held by those best informed among us. The question of training for professional work turns on the question of the *intent* of the training. It will not be questioned, as we have often pointed out, that the two-year graduate realized, and his instructors realized, that his success depended upon "finding and fixing the lesion." He was little prepared to do anything else, and while he may have worked this single idea of the cause of disease over-hard, he was an excellent pioneer in breaking the public away from its absolute reliance on drugs and prepared the way for a more general practice.

There is now, in most of the states at least, a more general and broader practice than was followed twelve or fifteen years ago and only those who purposely make it so, have their present work limited as it was then limited. Several causes have contributed to this: First, the willingness of the public to trust their acute ailments and their children's ills to those

who have relieved them of chronic disorders; second, this change has created a changed legal status which enables the profession in most states to do the work of the family physician; and, third, our educational institutions have so developed the course as to qualify new osteopathic physicians to do the work of the general family physician.

So the practice has undergone a natural development within the past dozen years. In doing so it has widened its field of usefulness. It has come to treat many new conditions. The point on which we want light is not is it treating in the new field successfully, but is the general average of the practice as successful as it formerly was on the limited chronic practice? Let us search our experiences honestly as we strive to answer this question. Certainly we heard more of the remarkable cures twelve or fifteen years ago than now. But while this is not conclusive evidence, or evidence at all, it is a strong presumption or suspicion. Let us assume that the profession does not make the remarkable cures or as many of them in proportion to numbers as it did twelve years ago. There are two possible explanations. Either the technique is less direct, specific and effective or our increased knowledge of pathology and medical practice convinces us that many of these conditions are impossible of help, and we decline them. As to the latter phase, while the osteopathist of the time we speak undertook, for the reason that he did not recognize the pathology involved, many cases which were impossible of cure, it is equally true that many cases now are rejected because of medical teaching regarding them, the physician apparently coming more and more to regard the effect upon his own reputation than the right of the sick to his service if they insist upon having it. But it is the other phase we wish especially to consider: Is the technique of the majority of the present-day profession in any wise responsible for less brilliant results in chronic cases than formerly? If so, it greatly handicaps its ability in the newer and wider field, for in these cases the bony lesion is apt to be much more minute and hence more difficult to discover and conditions are apt to be such than a more accurate knowledge and greater skill are required for perfect adjustment.

The points we wish to get before the profession are these: That maybe our technique is not as acute as formerly, because then it was the sole dependence for cure. It was apt to be looked upon as the one cause of disease, hence it must be found and corrected. We now see other causes for disease beside the bony lesion, and some of us perhaps look for the other causes first. Even where the search is made for the characteristic osteopathic lesion, perhaps it isn't as diligent as if we did not recognize that other causes might be contributory if not entirely responsible. We do not believe for a minute but that our shifting of position in this regard was to find the truth, nor do we believe but that now we are nearer to the truth, but we are dwelling upon this thought in order that we may all see how easy it is for one to assume that another cause, of which he has been taught, is primarily responsible, if the first examination does not reveal the bony lesion. And in addition to this, if the lesion does not yield readily to treatment, how easy it may be to weaken in our own consciousness as to the absolute necessity for correcting that lesion when we find that lesions of environment, of thought and of heredity exist! Is it to be wondered at that technique might decline unless it be constantly drilled into student and practician?

In this connection it seems to us a perfectly pertinent question to ask why have we lengthened our school course? Is it to meet the necessities of the laws in the several states, or is it in recognition of the increased opportunity it gives to better prepare osteopathic physicians? If the osteopathic concept of disease is not as relatively prominent in the three- or four-year course as it was in the two-year course, and if the technique of detecting and adjusting the bony lesion is not as prominent and strong at present as in the shorter course, lengthening the course has not been contributory toward making better osteopathic physicians. We wish here to hasten to record our belief that a two-year course is absolutely untenable; that an advance from it was absolutely essential; but we do wish to emphasize the fact that the bony lesion is the distinctive feature of osteopathic therapeutics and is the one contribution which is revolutionizing medical thought and teaching and that it must stand out as strong in a three-year course or a four-year course or a course of any length as it did in the original two-year instruction. Recent graduates of practically all our colleges have complained to us that they feel that this feature of instruction is neglected, and we believe a short talk with almost any graduate of the last two or three years will convince one that his thought is not as distinctively osteopathic and his technique as definite and precise as it should be.

However, our purpose is not so much to make a point that the schools are neglecting this important work as it to emphasize to every reader the *need of his giving constant attention to his technique.* We wish to go a step further and state that although the technique of *correcting* the lesion seems to be poor and not improving, we fear this does not reach the root of the matter which is a poor technique in *detecting* the lesion. We present in this issue an article from Dr. McConnell in which he has drawn from his fifteen or more years of experience and the unusual facilities he has had for becoming acquainted with experiences of others and to this he has added a year of experimental work, both upon animals and with a flexible human spine. The writer of this had the opportunity on several occasions when in Chicago, while these experiments were being made, to witness the apparatus and he wishes here to emphasize the importance of the findings given and to urge upon every member a careful study of the article presented. In our opinion it is the most practical of the many useful lessons Dr. McConnell has given us.

While the article needs no explanation, lest its length deter any from carefully reading it, we wish to mention a few points which should stir our interest. First, a lesson to those who habitually give the severe and extreme movements to correct the lesion. A fairly severe manipulation was given the same joint of the animal being experimented with repeatedly, running through several weeks, though not sufficient to cause any symptoms, then the animal was killed and the section and articulation which had been thus "popped" at frequent intervals, dissected and changes in the deep muscles and ligaments were found to have taken place. This would indicate that harsh "breaking-up" treatment, frequently directed to the same joint, does cause infiltration and hypertrophy of the ligaments and may thereby create a lesion.

The point we wish to emphasize, however, is the results obtained from the studies of the mechanics of the human spine. A normal spine mounted with flexible rubber was suspended by the side

of its gravity line and an upright was erected on each of the four sides of it, through which, on pulleys, a flexible wire connects each of the four sides of the vertebra with a lead weight. Typical lesions of one innominate or a vertebra in the lumbar or dorsal region were then produced. The effect of these lesions upon vertebrae above and the change of the relation of the spine to its gravity line were studied.

Now, this of course is pure mechanics; and the structure and adaptation of the human frame-work is mechanics modified by live and responsive muscles and ligaments. Hence, because a lesion of the innominate, for instance, in the very ingenious mechanism Dr. McConnell has rigged up shows new relation to gravity line in the mid- or uppor dorsal, or a distinct compensatory lesion at another level of the spine does not necessarily mean that the same lesion caused in the human subject will show the same changes. But it does mean that there will be a *tendency* to the same change or changes, and that it is only the power of adaptation and constant effort to maintain the normal in the human subject that prevents these lesions from taking place where they do not actually show. The point is, even if they are not discoverable, the resistance of the system which prevents their taking place causes strain, and no doubt is the explanation of many persistent contractures and is unquestionably a source of strain and irritation to the nervous system.

We regard this as a distinct contribution to osteopathic technique, and it is greatly hoped that it will be prosecuted further. If it should turn out that lesions at given points show compensatory changes at other points, it would seem that these related areas should be known and this knowledge would be of the greatest value in explaining and correcting many obscure cases. With this thought in view, it is urged that the readers give this exhaustive article by Dr. McConnell the most careful study, and co-operate with him as far as may be in their power in bringing out other facts in regard to the mechanics of the spine.

To sum up the situation: We are not as proficient in our methods of reducing lesions as we should be, even in comparatively simple lesions; but far more important than this is the study of the human spine as one of physics, plus physiology; an effort to understand what physical reactions take place when primary lesions occur, where strain may be expected and compensatory lesions found, for these may be equally disastrous to nervous balance and equilibrium as the primary lesion. If a determined effort is made by our colleges and trained physicists in the profession to thoroughly understand the points involved in these movements, we shall have the basis for working out very simple movements which will be effective. We have made an extensive study of anatomy, revealing muscle action and minute nerve connection; let us add to this equally careful and exhaustive study into the physics and mechanics of the spine, and we shall explain much which is not now understood and secure results never yet obtained.

THE RESEARCH INSTITUTE

A great many members of the profession have been visiting the Institute in its new quarters in Chicago the past summer and without exception, so far as we can hear, all are greatly pleased; in fact, it is a revelation to almost all of us to see the magnificent building and possibilities it offers. We heartily wish

that every member of the profession could see the new plant and its equipment, together with the workers who are now installed.

Many who have visited the Institute have written, making suggestions of ways and means by which the profession could further aid it. Some suggest that state organizations undertake to do certain things, as furnish a certain room or equip a given laboratory or contribute a set of books, etc. Any and all of these, of course, would be very helpful and we suggest that individuals or officers of state organizations who wish to co-operate in this, write Dr. Deason, at 122 South Ashland Blvd., Chicago, and ask him just what is most needed. It is suggested, however, that where books or equipment are to be given, that it will be very much better to turn the money over to the Institute for the specified purpose, but allow the Institute to do the purchasing themselves, as it can secure liberal discounts on books and some apparatus.

Now that the Institute is in operation, and beginning with the next issue of the Journal, will report regularly the work it is accomplishing, we must not neglect it and there are many ways in which even small amounts can be used to great advantage. These contributions will be printed through the professional publications. Dr. H. Viehe, of Memphis, Tenn., who recently paid the Institute a visit, makes this suggestion in a letter to Dr. Hulett:

> In looking over the place, Dr. Deason apologized for the yet slender library—which prompted me to suggest, that if the needs were properly presented, the members of the profession would respond with donations in the way of needful and desirable volumes, either from their private libraries or by order to publishers. Different publishers have repeated acknowledge that the D. O.'s were their best customers—and since they distribute to different periodicals advance copies of new publications for review, I am sure such publishers would be glad to favor the Institute, even for the sake of review and acknowledgment; particularly if such request were made by the Board of Trustees. Request through same channel would probably permit purchase by D. O.'s for the Institute at wholesale prices. I think it well too, to ask for pertinent government reports, such as reports of their experimental stations, bacteriological, marine and hospital, etc., which are free. I would also invite the exchange of reports with other similar institutions, also solicit the health reports of cities and states.

DIRECTORY AND MEMBERSHIP

The secretary's office is now compiling data for the 1913-14 Membership Directory, which will be issued about December 1st. It is desirable that we add as many new names to the Membership Directory as possible. Graduates of regular schools, well recommended, making application within the next sixty days, can have their names appear in the Membership Directory. The membership fee at this time is $4.00, and pays for membership to July 1, 1914.

Almost every member of the Association has some acquaintance in practice who would make a useful member and whom the Association could greatly aid. If you write or speak to him and tell him of the value of the Association and of the particular need that exists at this time for his becoming a member, we can add 500 or 1,000 to our list within the next sixty days. Will you make the effort?

One other thing: At the same time we will issue for the benefit of the members, a separate pamphlet containing a list of those in active practice who are eligible to membership in the Association. We want to make this complete and accurate. Will you not look over the last list of non-members and send us any changes and additions from which we may work? With your help in this particular, the Directory will be very much more nearly complete than any heretofore issued. It is worth the effort and we ought to have your support.

Departments

PERSONAL HYGIENE

XIII

O. E. Smith, D. O., *Editor.*
Indianapolis

Many afferent impulses arise as a result of food digestion within the intestinal tract. The physical contact of food with the sensory nerves in the intestinal walls acts as an agent to arouse sensory impulses which are carried to the gray matter in the spinal cord and brain. These afferent impulses, after reaching the nerve cells of the cord and brain, are reflected back to the intestinal walls as efferent impulses and as such arouse not only motion in the muscular coats of the intestines, but also increased circulation which causes glandular secretions from the intestinal walls and other gland cells connected with digestion.

The acid reaction of the food coming from the stomach also sets up active secreting processes in both the pancreas and liver, arousing these glands to pour out their secretions into the intestinal cavity. The reactions of the secretions from the liver and pancreas are alkaline, and it is a notable fact that the acid reaction of the gastric secretion is very useful in activating these alkaline secretions from these other glands.

Morat observes:

The injection of an acid solution (HCl 5 per 10c) into the duodenum excites the secretion of pancreatic juice, which may be observed appearing at the extremities of a cannula placed in the duct of the gland. In the normal condition it is the chyme impregnated with *the acid of the gastric juice* which provokes this phenomeon of secretion, and among the properties of *the pancreatic juice its alkalinity* must be included, which neutralizes the acidity of the gastric secretion passing into the intestine.

In regard to the influences of the bile acids upon hepatic secretion, Howell observes:

A circumstance of considerable physiological significance is that these acids (i. e., glycocolic and taurocholic) or their decomposition products are absorbed in part from the intestine and again secreted by the liver; as in the case of pigments, there is an intestinal-hepatic circulation. The value of this resorption may lie in the fact that the bile acids constitute a very efficient stimulus and the bile secreting activity of the cells, being one of the best of cholagogues.

Other secretions which are aroused by the presence of food and the secretions from the pancreas and liver are those from the crypts of Lieberkuhn located in the walls of the intestines. This secretion is also alkaline, as are those of the pancreas and liver. There are four or five different enzymes secreted from the intestinal walls, which are also useful in producing chemical reactions in the food stuffs.

Bacteria are constantly present in both the large and small intestine and bring about fermentation in the carbohydrate, and putrefaction in the proteid foods. As a result of the action of bacteria upon carbohydrate foods there may result fermentation, producing various acids, such as acetic, lactic, butyric, succenic, and other products as carbon dioxid, alcohol, hydrogen, etc. From the putrefactive processes of proteid foods, as a result of bacterial action, arise a long list of subtances, peptones, proteoses, ammonia, indol, skatol, phenol, fatty acids, carbon dioxid, hydrogen, marshgas, hydrogen sulphid, etc.—*Howell.*

It will be noticed that digestion is a progressive process advancing by successive stages, each succeeding stage being dependent upon some preceding stage, which is initiative of the former. Thus, it is that the beginning afferent impulse may be simple in itself, as physiologists point out, but advancing into more complex physiological phenomena as the different stages develop. The afferent impulse is very simple in comparison with the efferent impulse which it arouses. The grey matter of the nervous system has power to multiply to many times its first power, and change into diverse pathways, the afferent sensory impulse received in the spinal cord and brain from the periphery, and it is due to this power that so many different expressions of vital phenomena have their existence.

The presence of food in the intestines, the gastric, hepatic, pancreatic, and intestinal secretions, the gases created by fermentation, decomposition and putrefaction of food products —all these factors act as agents to initiate the afferent impulse, and from such afferent impulses as a vast number of physiological reflex efferent impulses arise which are useful to the organism in producing and maintaining vital phenomena which are beyond the power of man to measure or detect.

From the simple afferent impulses, then, arise, eventually, the many manifestations of vital phenomena which we know as life. Energy may enter the nervous system as a sensory impulse, and by passing through the gray matter of the nervous system be conducted into efferent pathways where it will be expressed as chemical, motor, thermal, psychical, and other forms of energy. It is, therefore, not necessary in order to arouse chemical reaction within the intestinal tract to use chemical energy, but on the contrary, the sensory impulses imparted to the afferent pathways of the cerebro-spinal nervous system may, through the grey matter, be connected into chemical reactions by increasing the glandular secretions which act upon the food stuffs and there liberate chemical energy, as well as many other kinds of energy.

Osteopathic therapeutics are in no sense inefficient because another than chemical energy

(drugs) is used to influence vital phenomena. The nervous system is especially responsive to mechanical stimulation, and owing to the power vested in the nerve cells, in converting afferent into efferent impulses, whereby those impulses become capable of producing all forms of vital phenomena, it is possible, through osteopathic treatment, to normalize almost any function of the organism, insofar as such function is amenable to treatment of any kind. The afferent impulse is initiative of complex vital phenomena within the organism by virtue of the power vested in the nervous system to direct energy into different parts of the organism specialized, by cell differentiation, to manifest certain specific vital phenomena.

If the different stages of digestion are progressive, and advance from one stage to another by means of the afferent impulses aroused by each preceding stage, it then becomes important to normalize each stage out of which is aroused the afferent impulses for the succeeding stage. The normal amount of gastric juice, hepatic and pancreatic secretions, bacteria, enzymes, circulation, muscular contraction, etc., having to do with digestion, are all important factors because they act as agents to arouse afferent impulses and, as such, are initiative of life itself.

When the circulation, digestive secretions, muscular tension, gases, etc., vary considerable from the normal, it is then that afferent impulses are created in such measure as to cause variation in vital phenomena. Bunge says, in writing of an excess of CO_2 gas in the system, that:

> The abnormally high tension of this gas in the tissues is the cause of disturbances, especially in certain parts of the central nervous system. The increasing partial pressure of the carbonic acid acts above all on the respiratory center, causing deeper respiration. If the retention of carbonic acid be so great that the deeper respiration cannot overcome it, it acts also on other parts of the central nervous system, and the animals finally die with symptoms of narcosis.

The CO_2 is formed in the intestine when the sodium carbonate of the intestinal juice is neutralized, and forms from twenty to fifty per cent. of the gases in the bowels. This gas is absorbed by the blood and expelled by the lungs. When respiration is poor and exhalation of this gas is slow, the system becomes charged with it, producing headache, cerebral lethargy, and other discomforts.

Bunge says of H_2S:

> It is possible that a headache, vertigo, and nausea frequently accompanying gastric and intestinal catarrh and persistent constipation, poisoning by sulphurreted hydrogen plays a part.

By normalizing all of the afferent impulses related to digestion, we are able to overcome many of the nutritional diseases which would soon arise were the abnormal afferent impulses left to mature into efferent impulses. Impressions are never permanently inhibited, but always gain expression in some form, and for this reason they should all be as nearly normal as possible.

HYDROTHERAPY

W. WILBUR BLACKMAN, D. O., M. D.
Atlanta

THE WET SHEET PACK

The Wet Sheet Pack is one of the most useful and valuable of all hydriatic procedures, and should be more extensively employed, for it can be utilized in home or institutional practice; and, where judiciously used, will yield results the equal of many more vaunted procedures.

Method: It is best applied upon a cot or bed, over the mattress of which a rubber sheet has been spread. Two large woolen blankets are spread upon the mattress and allowed to hang over the cot equally on either side. The blankets should be long enough to extend at least eight to twelve inches below the feet, and the end above must come to a level with the ears. A heavy cotton or, preferably, rough linen sheet is now well wrung out of water at a temperature appropriately regulated from 50 to 80 degrees. The sheet is spread upon the blankets so as to leave a few inches of blanket margin at the neck end. The patient, completely disrobed, places himself upon the middle of the sheet, with his arms and legs slightly separated from contact with the body or themselves. He should lie so as to allow three inches of the sheet to project above the shoulders.

The attendant, standing on the left side of the cot, grasps the upper left hand corner of the sheet, and has the patient raise the arms; the sheet is then brought under the left arm, across the chest, and is tucked snugly around the neck and under the right side of the trunk; the right leg is then raised and the sheet carried over the left leg and under the right. The arms are now lowered and the upper right hand corner of the sheet brought over the right arm, over the chest, over the left arm, and is then tightly tucked under the left side of the trunk. The upper edge should now be folded and tucked around the neck and under the chin. The lower edge is then carried over the right leg and tucked under the left, and the open end below the feet loosely folded over the toes and tucked under the heels. If properly done, every bit of the cutaneous surface is in contact with the sheet, except that of the face and head.

The next step is to apply the blankets. In a manner similar to the application of the sheets, the upper left hand corner is carried across

the trunk. The lower left end is then carried over the left leg and the lower limbs closely drawn together. The right side of the blanket is then carried across and folded over the shoulder, trunk and legs. The attendant should now endeavor to pull the blankets as closely to the body as possible. The second blanket is now applied over the first in like manner. The open ends at the feet are then folded closely together and turned under. A soft towel is next tucked around the neck and the hair is kept wet with cold water or a cold wet turban frequently renewed. The time usually required to apply a pack is three or four minutes. All air must be absolutely excluded from the pack.

Physiological Action: The first contact of the cold wet pack is disagreeable—a chilling sensation accompanied by tremor and shaking. Irritation of the cutaneous nerves by the cold, with contraction of the peripheral vessels, lasts until the individual's power of reaction comes into play. This depends, as in all hydriatic procedures, upon the condition of the patient. Nervousness may be increased, but will disappear and give place to relaxation and calm when full reaction takes place.

The efficiency of the application of the pack itself will have something to do with the patient's reacting or "warming up," for chill in the pack may be due to the fact that at some points the wet sheet is not in perfect contact with the surface. If the feet do not warm up promptly, apply a hot water bottle. This stage usually lasts from five to fifteen minutes, when, reaction commencing, the system makes an effort to equalize its effects. The duration of the pack should range from thirty to sixty minutes, depending upon the effect desired—the shorter, tonic and envigorating; the longer, sedative, relaxing, and eliminative. When reaction sets in, the patient feels a delightful glow, a sensation of comfort and well-being.

With the onset of reaction, the peripheral blood vessels dilate and the patient is enveloped in a moist vapor. The entire bodily circulation is accelerated and the column of blood which had set in toward the viscera returns to the surface. Later the greatly increased amount of heat generated accumulates and general perspiration is induced, especially if the patient is made to drink freely.

The effect produced during the first, or cooling stage, is intensely alterative in character. The whole system rallies to resist the invasion of the depressing agent, cold; and if the pack is arrested when reaction begins, the general effect will be *tonic*, if followed by vigorous rubbing. If the pack is discontinued as soon as the reaction begins and a freshly cooled sheet applied, the effect is powerfully antifebrile.

A second period in the pack begins when the "warming up" process is complete, but before perspiration takes place. This period is quieting and tends to produce sleep and excite renal activity.

During the next or sweating period, elimination and destruction of tissue toxins takes place, the blood movement is accelerated, and oxidation of nitrogenous wastes hastened. This period may be prolonged almost indefinitely, having the patient drink a glassful of hot or cold water every half hour, and extra blankets may be applied.

Uses: The tonic pack (discontinued when reaction is established) is indicated in all forms of wasting disease, as in anemia, chronic toxemia, convalescence, chlorosis, diabetes and neurasthenia.

The neutral pack, that is, the wet sheet pack, continued up to the sweating stage, is of much value in insomnia and in neurasthenia with nervousness and depression. It is a royal method for quieting the general nervous system, which it accomplishes by lessening the blood supply of the brain and reflex irritability. Continued to beginning perspiration, in the early stage of eruptive fevers, it aids in developing the eruption and relieves cutaneous discomfort.

The sweating pack is of excellent efficiency as an easy method of supplementing renal inactivity in dropsical, toxic and rheumatic cases. It is excellent for a dry, inactive skin and the usually associated inactive mucous membranes. It is strongly indicated in jaundice, but should not be carried too far if itching is severe. In cases of high blood pressure, the moderate use of the sweating pack daily is highly satisfactory. It relaxes the superficial arterioles in these patients and combats toxemia, relieving hypertension.

Indeed, the wet sheet pack is one of the most useful of all hydrotherapeutic measures, as it combines at once very powerful effects, great convenience, and universality of application. It is a powerful means of influencing the general nutrition through its effects upon the sympathetic nervous system, and through it, upon all the processes of secretion, circulation, assimilation, and excretion.

Robertson-Blackman Sanitarium.

MENTAL THERAPEUTICS

G. H. Snow, A. B., D. O.

Victor Vecki, M. D., in a paper on "Psychotherapy in Sexual Neurasthenia," read before the General Meeting of the San Francisco County Medical Society, and published in the April issue of the *California State Journal of the Medicine*, says:

Having used psychotherapy in sexual neurasthenia for well nigh thirty years, I came to formulate certain rules, of which I shall give you briefly the principal ones.

The first and main task is the diagnosis, and here it is that the most glaring failures can be accounted for. Every psychotherapist should be exceedingly cautious not to jump at conclusions and not to depend altogether, or even too much, upon his own diagnostic powers.

Physicians who specialize in internal medicine or head organs or nervous diseases, or uralogy, or rectum, can sometimes detect ailments that explain many a case of supposed neurasthenia. The psychotherapist who does not hesitate to consult various specialists will never be in the awkward position of having treated psychotherapeutically a case of beginning serious disease of the central nervous system; skilfully made Wasserman might frequently be a guard against the mistaking of syphilis for neurasthenia; syphilis, this most common disease, and so commonly apt to be forgotten by the practician.

The influence of a more less developed phimosis and varicocele are just as frequently underestimated as they are exaggerated; and all kinds of even less important lesions must be considered; (at present, the consideration of the ductless glands adds new troubles in the diagnostication of neurastehnia; hypo- and hyper-thyroidism, hypo- and hyper-pituitaryism, and the interrelation of the thyroid glands and the sex function, the interrelation of the hypophysis and the thyroid, and the various forms of toxemia following the various complicated pathological changes of the ductless glands, are of enormous importance in the consideration of our subject, and we must hesitate more than twice before we loosen the diagnosis of the neurasthenia).

Almost as important, and in the beginning mostly even more important for the success in the treatment of any case of apparent sexual neurasthenia, is to place oneself in sympathetic relation with the patient. * * *

As soon as the physician is in the proper rapport with the patient, he can exert the most powerful influence, but until the successful end of the treatment there must not be a moment of relaxation in sympathy, interest and vigilance. The patient must always be absolutely convinced that the doctor understands his case perfectly, and is going to clear up by painstaking examination of the organs and their excretions, in the office and laboratory, the few doubtful points and going to cure him. * * *

The next step is to remove all excuses for worry, or as it is not called "unfavorable mental influences;" therefore, even small and unimportant ailments and their symptoms must be cured. Walsh summarizes every physician's experience in that regard by saying: "The suffering in the world is out of all proportion to actual disease."

To my experience, sexual neurasthenia is very seldom primary, but mostly a very disagreeable complication; a complication which frequently remains even after the original cause was removed. These are the cases where so-called psychotherapy can help when everything else must fail. * * *

Even trifles should not be forgotten, the general attitude of the body must be corrected whenever necessary. When a neurasthenic is told that he cannot get well before he stands and walks erect, the head high, the face smiling and friendly, he will see to it; have some distraction of mind, besides improvement of general health and disposition.

The following, taken from the June number of *Science*, is part of an address delivered at the opening exercises of the Henry Phipps Psychiatric Clinic by Stewart Paton, at the Johns Hopkins Hospital at Baltimore, Md.:

The dedication of a psychiatric clinic is an event of more than ordinary importance to a community, as it marks the awakening of intelligent interest in man, as an active thinking being. Having striven for centuries to improve the method for recording his fanaticisms, superstitions, sins of omission and of commission, and failures to adjust life to meet new conditions, he has begun at last to take rational measures to improve his lot, and to acquaint himself with the laws on which the social organism rests. As the value of this benefaction to the community will depend directly upon the intelligent use of resources and energy made available for rendering more effective service to humanity, may we not profitably devote a few moments in attempting to formulate some of the problems to the solution of which this clinic is dedicated. * * *

This clinic, in a peculiarly distinctive manner, typifies the human as well as the humane spirit of the twentieth century. During the seventeenth and eighteenth centuries, the physical sciences had succeeded in breaking away from the traditions and superstitions which had hampered their development. Astronomy had been divorced from astrology, chemistry from alchemy, and the foundation of geology had actually been laid. In the nineteenth century the renaissance of the biological sciences was accomplished by the formulation and expression of a rational idea of man's position in cosmos. Towards the close of the eighteenth and the beginning of the nineteenth century, a few investigators had already called attention to the importance of studying the activities of human beings. But not until the second half of the last century was there any realization of the fact that the most interesting phenomena for human beings to study were their own activities. How do we live, move, and have our being?

To the lay mind the term psychiatry often suggests a very limited field of medical science, but to those who take an active part in the work of this clinic will easily appreciate that they are engaged in attempting to find solution of problems of far greater importance than any relating merely to the care of patients suffering from mental or nervous disorders. Anomalies of thought and conduct are studied in order that the knowledge acquired may be applied directly to making life for the majority of persons pleasanter and more effective. Institutions of this character are intended primarily for the study of human nature along broad biological lines.

We are justified in considering disease as an analytical process which reduces to a comprehensive form the complex activities we designate collectively as health. An intimate knowledge of abnormal states of mind and body is, as Pinel affirmed, a key that unlocks the secrets of human history. By making use of nature's contrast of functions we may also gain an insight into that continuous process of adjustment we call life. From the study of disease the parts have been gathered for the foundations upon which modern preventive medicine has been established, and through it a new meaning has been given to life and greater efficiency in thought and action to those who profit by the lessons of science. For centuries the different parts of the body have been studied by physicians, and a knowledge of the structure and function of the separate parts has been attained. It is essential, if we are to comprehend the fundamental mechanisms of response of the organism, that we familiarize ourselves with the laws which govern the relationship of all these organs as they are expressed in each individual, and we must accustom ourselves to study man as living organism.

Living beings have the capacity of expressing their integral unity as individuals, and in case of man there are special mechanisms of adjustment, collectively designated as personality. The complex adjustments synthesized in the personality may easily be deranged by interference with the activities of organs or by disturbing the capacity for adaptation; the chief function of sense organs, brain and nervous system. * * *

A great blessing was conferred by science upon humanity when the problems of psychiatry were restated in biological terms. Life was recognized as a process of adjustment, relatively perfect in health and imperfect in disease. * * *

As the ultimate success of the work to be carried on in this clinic, more than in any other department of the hospital, will depend upon co-operative endeavor, I may be permitted to emphasize what seems to me to be an important factor in organization and administration. * * *

In order to serve the high purpose for which it is planned and dedicated, this clinic should be regarded as an important link in a chain of agencies, home, school, college, other hospitals and institutions; in fact, the entire social organization with which it is essential constant sympathetic contract should be maintained. Only by the establishment of these relationships can progress in the study of life processes be made.

I wish that several of the osteopaths who can might visit this clinic from time to time and send report for this department of your JOURNAL.

EYE, EAR, NOSE AND THROAT SECTION

OPHTHALMOLOGY

CHAS. C. REID, D. O., *Editor*
Denver, Colo.

It is the desire of the editors of the Eye, Ear, Nose and Throat Department that it be made the most useful possible to the whole profession. The osteopathic physician in general practice should be able to make as detailed and careful examination of the eye as of any other organ in the body. He should understand and be able to treat all the common diseases of the eye as well as any other part. He should not feel called upon, for the good of his patient, to have a specialist assist him except in the most difficult, dangerous and complicated cases. Unless he is able to recognize that an unusual and perhaps dangerous condition exists, an eye may be sacrificed or sight permanently damaged through lack of timely and proper care.

The profession is awaking to the specialties and none too soon. No doubt there are many cases of the specialty nature that pass through the hands of the profession annually to medical specialists which we should not lose. Many more do not come to us for ailments which they think (and many times correctly) we do not treat.

Fourteen years ago, when I left school my understanding of osteopathy was that it is a complete system of therapeutics not yet thoroughly developed and broadened in various lines. These years have seen much development and fourteen more years will add its quota. If osteopathy is to come into its own its practicians must be wide awake in every line of therapeutic endeavor. Limitations once set in the minds of the people will be difficult to eradicate.

This department is dedicated to scientific development along these lines. In view of this fact every one is invited to give suggestions, write case reports, articles and send questions to the editors to be used in advancing the helpfulness of this department.

HOW TO EXAMINE AN EYE

In order to be proficient in the treatment of the eye one must have a thorough knowledge of the general field of therapeutics. Some systemic diseases have eye symptoms and pathology. This is often a guide in diagnosis. Heredity, occupation, and environment are to be considered.

Osteopathic lesions from falls, strains, twists, blows, cold, exposure, and other causes, frequently impair the integrity of the metabolic processes of the eye through the nerve connections, and lay the foundation for a great variety of eye diseases. With these lesions existing about the neck and upper dorsal it is only required to have some insignificant local irritant to start symptoms and cause pathology apparently out of all proportion to the etiology. Unless one understands the nerve centers and reflexes and the osteopathic logic underlying these conditions, he must frequently work without a satisfactory explanation of the etiology, and consequently be more or less unscientific in his treatment.

An examination of the eye, then, should consist of (1), the case history; (2), the family history; (3), inspection; (4), osteopathic examination, especially from the fourth dorsal vertebra to the occiput; (5), special examination of the eye by various methods.

Each heading will be taken up in order and discussed.

(1) *The Case History.* Most patients will soon recognize the thoroughness or the lack of it in a doctor; more especially will this be true of one who has consulted various physicians; such is the case with many of our patients. Nothing, then, should be passed over as too trivial in studying a patient's trouble. The wise physician wants to know every fact that helps him to a better understanding of his case. Nothing should be ruled out that might throw more light on the patient's ailment. A patient and attentive hearing of the history will often be of great assistance. Not only will it give light on his physical condition, but also on his mental attitude. There is a certain psychological element that must be met and satisfied or pacified in every case, for the best results. It is often sufficient to impress the patient that you are careful and attentive about his case. This much is essen-

tial. Beyond that the mental phase varies. Adaptability is the watchword. Note the symptoms from which he seeks relief; what he thinks is most important about his trouble. All this will take time, but it is time well spent. The diagnosis in eye troubles does not rest so much on what the patient tells you as it does upon what one finds by special methods of examination; because of this the patient may not be allowed to give his view of his case sufficiently. His full confidence in one's carefulness may not be thoroughly established if there is not an attentive hearing of the history.

Extend the case history by questions in various lines. Inquire in regard to headache, nervous symptoms, previous eye trouble, his age, his occupation and general illnesses. It is difficult to get any reliable venereal history in many cases. Just recently a case came in that illustrates this point: A young man twenty-two years old; in the case history he gave nothing suggesting syphilis; a look into his throat showed a mucous patch and further examination showed apparent secondary syphilitic lesions scattered over his back. It was so characteristic that the idea was pressed upon him; he still denied; a Wassermann reaction was made, and without question was positive. By this time he had two days to think it over; when the Wassermann result was presented he let down the bars and the case history was finished. So large a percentage of eye diseases are caused by syphilis and gonorrhoea that one must exercise care not to be misled along this line.

(2) *The Family History.* There are those who minimize heredity and those who magnify its influence. Without doubt heredity has an important bearing in many cases. Inquiry should be made as to the occurrence of blindness in the family and at what age, if any. Note the race of people, the consanguinity of the parents and general diseases of the family. Get venereal history if possible. In the case of women ask in regard to menstruation and child bearing.

(Next month (3) Inspection and (4) the Osteopathic Examination, proper, will be considered.)

Majestic Building.

Current Comment

C. C. Teall, D. O., *Editor*, Fulton, N. Y.

AN ANATOMIC EXPLANATION OF MANY CASES OF WEAK OR PAINFUL BACKS, AS WELL AS MANY OF THE LEG PARALYSES

Recently we stated in these columns that, as yet, the lumbo-sacral luxation had not been "discovered," but Dr. Bancroft shows us our error by sending a copy of the *Boston Medical and Surgical Journal* of January 28, containing Joel Goldthwait's article entitled as above.

He fortifies his position of originality for his "discovery" with this statement:

> In such a paper the pathologic conditions which many times are responsible for backache are not considered, since there is little new for the writer to add to what has already been written upon these features. The anatomic elements had not, however, to his knowledge, been fully described before, and hence their mention here seems justified.

It is not necessary for us to point the fact that these conditions have been described many times and for many years. If he has not seen them, he has neglected that part of osteopathic literature which has been his inspiration in several former articles.

This paper is illustrated with many half tones from radiographs of the pelvis intended to show the faulty relations between the sacrum and fifth lumbar. It is a very complete anatomic picture of the region, but is weak in diagnosticating the real condition, except by the X-ray, and we all know how difficult it is to get a satisfactory picture of that joint. We shall not attempt to give more than a few lines as it is only interesting to show medical progress. He says:

> With the increased width of the transverse processes or with the crowding of the articular processes together, the space in which the nerve root leaves the spine or the space in which the lumbo-sacral cord lies, as it passes under the transverse process and over the sacrum to join the sacral plexus, must be narrowed. This at times is enough to simply irritate the nerve, causing pain to be referred to the leg at the distribution of the nerve, while at other times the constriction is enough to cause paralysis or numbness through the same distribution.

This has a reminiscent ring and causes us to go back in memory to the callow days of our youth, when all was crude and new in osteopathy, yet as we sat in our first recitation in anatomy we heard almost those identical words used in describing similar conditions. We can also almost again hear the hoarse hoots of derision from the erudite and highly educated, ultra-scientific mob of medics that greeted our position on the subject. Now, years later, we see them in open-mouthed wonder drinking in words of wisdom and marveling at the majesty of the intellect (Goldthwait's, not Still's) that could have, all alone, evolved such original and marvelous discoveries from its innermost consciousness.

If the novitiate M. D. is to find difficulty in diagnosing from this study of the joint he will have a much harder job to make use of his newly acquired wisdom, for the author gives but little under treatment, vide:

It is not the purpose of this paper to enter extensively into all that is concerned in treatment, since that was not the intent of this paper, and since once the anatomic conditions are appreciated, the principles of treatment would be apparent to men trained as are members of this association.

We wonder if Joel speaks in playful irony by indulging in this bit of merry persiflage, or was it the hope of referred business that prompted the bouquet, for he well knew not one in a thousand could or would ever make use of his "discovery." To continue:

If the sacro-iliac joint is involved as part of a lumbo-sacral malformation, it is obvious that treatment directed to the sacro-iliac joint alone will not bring relief. * * * If the condition is purely a lumbo-sacral lesion, naturally the most important element in the treatment consists in so changing the poise of the body that there will be the least unnatural pressure at the joint. Usually the anatomic peculiarity, if present, has existed since birth, and the symptoms have come late in life simply because of undesirable postures, which have been acquired. Recognizing this, it is usually possible to relieve the symptoms, although the potential trouble remains, to become active again in case of accident or careless habits of carriage.

His closing paragraph shows that he has still something more to learn in regard to this subject than is given in his clever paper. However, enough knowledge of the condition has been shown to emphasize our statement that the larceny of the pelvic luxations is a fact and perhaps we are fortunate that it was done by so accomplished and clever a villain as the author of this paper, for in less able hands it might have been so crudely looted as to have caused anguished, while now it excites both admiration for him and pity for a profession that can wink at such a proceeding and then loudly proclaim itself the self appointed guardian of the public's health and morals.

"O tempora! O mores!"

THE SERUM PEST (IN 1889 AND IN 1913)

It is safe to say that the eclectic school of medicine does not take kindly to the serum craze, and does not hesitate to give voice to its convictions, as will be shown later by extracts from its literature. In this respect it differs radically from the homeopathic school, who waver on the subject about as they do on vaccination.

The gifted pen that wrote "Stringtown on the Pike" has not lost its art, as will be shown by the following extracts from an article titled as above by John Uri Lloyd in the *Eclectic Medical Journal*, and we would be glad to print it entire if space permitted. He says:

Many an enthusiastic believer in an idealistic process has lived to repent having furnished an opportunity for subsequent plunderers. Many a prospector has struck a pocket of golden grains that were soon exhausted, and that served only to lead himself and others to destruction through a fruitless after-search for more gold. Many a merchant vessel has been richly laden, only to fall a prey to professional pirates, sailing the seas under a misleading flag. Many a philanthropist has founded an institution that has afterwards, in more ways than one, nourished the enemies of both law and order. Many a corrupt politician has crept into office, because in public he loudly berated the evils of his own creation. Many a crusader, in behalf of right, has sown the seeds of a crop that has gone to feed those concerned in the reverse of all he holds sacred. Many a transplanted flower has, in its new home, become a pest. And many a man, in irony, satire or sarcasm, has started a process that has led to results the very opposite of anything he had in mind. * * *

Let us then take the privilege of considering the word *"serum,"* now so well advertised to laymen as well as the profession, and connect therewith an adage that from the days of Epictetus has been used to point a warning, that we believe many of the enthusiastic promulgators of the modern serums would do well to heed: *"Never begin a thing you cannot stop."*

From a small beginning the serum craze has advanced in an ever-rising tide, till thoughtful observers now stand dumbfounded and wonder whether the flood crest of this modern craze has or has not been at last reached. Let us think backward concerning the beginnings of this animal extract obsession (called by some, not inaptly, "the filth-treatment"), that, in its sensational aspect many believe, and perhaps more hope, is now rapidly nearing a self-merited extinction.

He then gives a review of the Brown-Sequard craze of 1889 and its wonderful claims which, of course, never materialized, and which now are looked upon as a therapeutic joke, and contrasts its claims with those of today which are accepted by the serum enthusiasts in toto. He quotes from a newspaper article by some well known medical writer, headed "Cure for Old Age," of which the following is enough to give an idea of its absurd claims:

What is known as the pituitary body, located in the head, near the base of the skull, is the general of them all; the thyroid gland, just below the jaw, is the first lieutenant; then come the adrenals, and after them the genital glands.

So powerful is their influence upon the human organism that I could make a race of giants out of dwarfs or of goggle-eyed idiots, by taking people in adolescence and simply disturbing the balance of proportion among these glands.

In one respect, however, Brown-Sequard is here outdone, for his new serum *"Rebuilds Morals!"* Let us quote:

"Startling as this may seem, it has been demonstrated in a number of instances, for people who are physically weak are morally weak!"

But there is a pathetic as well as a ludicrous side to this story. The lives of our people are at stake. And in the midst of such perplexities how can the practicing physician balance the problems that, in this direction, now face his calling? And yet, the practicing physician is the only man who can, should, and in the final analysis *must*, govern those who, either through misplaced fanatical zeal, or business intent, are now attempting to enmesh him. Hopeful at first was he, even of the increasingly sensational advertisements spread before his eyes, but he could not but become critical in the face of such announcements as that of an "Old Age Serum," or a "Sure-Cure Heart Serum," evolved by the wonderful methods of a man of great learning, united with unapproachable

laboratory facilities, whether produced from the "tappings" of a dropsical woman's leg, the juice of a fishing worm or a beetle, or extracted from the diseased tissue or excrement of some reptile or beast. In it all, none suffers more than does the honest and earnest manufacturer of meritorious products of this description, unless it be the professional authority who is concerned only in legitimate statements of fact.

Patiently and hopefully have the American people waited the development of this serum craze, which happily now is meeting editorial satire in the daily press. Faithfully have the people trusted, suffered and sacrificed, not only dumb pets and helpless creatures, but their very flesh and blood as well. To the very crises have they submitted to this rolling of the Juggernaut car, which in the name (or mis-name) of modern "Science" is crushing them with its weight of absurdities, never equaled by the most grotesque forms of Chinese medication. Could Brown-Sequard arise, what would he think of the processes of his followers, who have "scientifically" improved upon his crude methods, and put to the blush his famous "Elixir of Life?" When the historian of the future turns back the page to the record of the times in which we now live, the serum mania of today (if its record be kept intact) will surely stand revealed as the most marvelous illusion that has ever linked "science" with charlatanism. Let us again ask, "Is the beginning of the end even now at hand? Have we at last come to the turn of the tide? Will no one in a position of authority raise a protesting voice against the reckless introduction of serum products, that bid fair to discredit the useful, and to subject to ridicule the worthy, of that class of preparations?

ANTI-MENINGITIS SERUM

Most of us will recall newspaper reports of deaths in a Cincinnati hospital following use of the Flexner serum for cerebrospinal meningitis reported by Dr. Kramer in March before the Academy of Medicine of that city, of which he is a former president. It raised a storm of protest from the serum advocates, headed by the great Flexner himself. Dr. Kramer's report was in part:

Backed by irrefragable laboratory evidence, Dr. S. P. Kramer made the startling statement at the meeting of the Academy of Medicine last night, that a number of children had died at the City Hospital within the last few days from a serum used, and not from cerebospinal meningitis, as was supposed.

Since the scourge of this fell disease has been raging, the medical profession has been astounded at its terrific mortality, fourteen out of fifteen dying at the hospital. Of these, many were children, and Dr. Kramer, who is a member of the hospital staff, was astonished to see these little ones die within five minutes or less after they had been injected with the Flexner serum, which has been heralded over the world as the panacea for this awful affliction.

Dr. Kramer noticed that immediately after the withdrawal of the spinal fluid and the injection of the serum, the little sufferer's arms would become paralysed, convulsions follow, and, in spite of artificial respiration, the child would die. In this manner, five children died and two whose respiration had ceased were only saved by the most strenuous efforts. He at once forbade the use of the serum, and in his laboratory sought the solution of the problem. Under the same process as employed on the human, he injected the serum into the spinal column of dogs, and the same fatal results followed.

Dr. Flexner rushed to the defense of his creation with a telegram to a local paper:

New York, March 21.—If the anti-meningitis serum itself or the preservative tricrecol contained in it were the cause of the deaths reported by Dr. Kramer, many other similar reports should have been received. None have been. Considering the wide use of the serum and the consensus of opinion that it is not harmful, but highly beneficial to children as well as adults, I see no reason for attributing the effects that Dr. Kramer has reported to either the serum or the preservative.—*Simon Flexner*, Rockfeller Institute for Medical Research.

To this Dr. Kramer took exceptions and in public print replied as follows:

Since I made the report to the Academy Monday night, citing five cases in which death followed within a few minutes after injection of the serum, I have received reports of two other cases in which children died within a half hour after the injection. One of the cases was reported from Norwood and the other was reported to me by a hospital physician. This makes seven cases. Dr. Flexner wires that he has not heard of any similar reports from other parts of the country, but, *now that the ice is broken*, and that the cause for the hastened deaths after injection has been pointed out, I predict that Dr. Flexner will hear of many cases. My report to the Academy of Medicine will be printed in the *Journal of the American Medical Association* and physicians throughout the land will then know why death is hastened in children after the use of the serum. Then will follow reports wherever the serum is used on children, confirming the truth of my position.

Dr. Kramer also wrote Ernst J. Lederle of the New York Board of Health, of which we quote in part. Referring to Flexner's claim that no deaths were reported from other sources:

In U. S. Public Health Reports, January 26, 1912, on page 115, W. H. Frost, passed assistant surgeon, U. S. Public Health and Marine Hospital Service, has described such deaths. In the *Journal of the American Medical Association*, of March 1, 1913, page 959, Dr. Arthur H. Parmalee reports ten cases of respiratory paralysis. Indeed, so common has this catastrophe become, that in a circular issued by your department, and a copy of which I am enclosing, directions are given as to what should be done when breathing stops, following the injection.

The following are the directions sent out by the New York Board of Health, and after reading them we believe most will agree that it is a procedure not to be lightly undertaken, and attended with grave danger. The mere fact that the spinal canal is entered is enough to make only the most reckless hesitate, but the addition of the serum makes it an operation for the skilled alone to undertake:

DEPARTMENT OF HEALTH, THE CITY OF NEW YORK
RESEARCH LABORATORY, FOOT OF EAST 16TH STREET
ADMINISTRATION OF THE ANTIMENINGITIS SERUM

The antimeningitis serum is a specific immune serum of therapeutic value only in meningococcus meningitis. It is administered subdurally only; the subcutaneous route being practically worthless.

After performing a lumbar puncture under careful aseptic precautions in the fourth lumbar space, or higher, if necessary, as much cerebro-spinal fluid is

withdrawn as can be done safely, usually 40 to 60 c.c. in an adult, depending on the condition of the patient, and quantity and pressure of the cerebro-spinal fluid as it flows from the needle. It is desirable to make blood pressure observations during the operation. Withdrawal of fluid causes inconstant changes in the blood pressure; sometimes there is no change, other times there may be a rise, but most often there is a drop in blood pressure. A drop of 10 mm. of mercury in an adult having an average blood pressure of about 110 mm., or an average drop of 5 in children up to six years, is an indication to stop the further withdrawal of fluid. If there is no change in blood pressure, the fluid should be taken off till the cerebro-spinal fluid pressure drops to normal; this is roughly measured by counting the drops as they flow from the needle, one drop every three to five seconds being about normal. If the fluid is cloudy inject the serum immediately without waiting for bacteriological examination.

The injections are repeated only after bacteriological examination has determined the cause to be the meningococcus. The serum is poured into a sterile beaker, warmed gently to body temperature and injected slowly without pressure, into the subarachnoid space. A syringe may be used for injecting the serum or it may be allowed to run into the canal, by gravity, through a funnel or tube arrangement. The barrel of an ordinary 10 to 15 c.c. antitoxin syringe may be used as the funnel. The rubber tube should be about twelve to fourteen inches long, about one-eighth to one-fourth inch in diameter. If the serum does not flow readily, the plunger of the syringe may be used, injecting very slowly. If uncontrolled by blood pressure observations during the operation, the quantity of serum injected should not be larger than the amount of cerebro-spinal fluid withdrawn so as to avoid symptoms. The average dose for an adult is 20 to 30 c.c., though 40 c.c., occasionally more, may be injected with safety if properly controlled. In infants and children the dose is 3 to 20 c.c., proportional to the size. The blood pressure change is an accurate guide, indicating the quantity of serum that can be injected without causing shock. On injecting serum into the canal, the blood pressure shows a fairly constant change; it drops, and continues to drop rapidly as the larger quantities of serum are injected. Occasionally there may be a little rise after the first few cubic centimeters of serum are injected. An average total drop from the beginning of the operation of 20 mm. of mercury in an adult, or a drop of 8 to 10 mm. of mercury in children, is a good safe indication to stop the further injection of serum. The injections should be repeated arbitrarily each day for the first three or four days of the disease, the administration later depending on the clinical symptoms, especially temperature and general improvement, and the condition of the cerebro-spinal fluid as revealed by bacteriological examination. Usually four to six injections are necessary, but as many as fifteen or more may have to be employed.

Cessation of breathing or symptoms of shock during the injection of serum, are best treated by raising the head of the patient, and immediately removing fluid from the canal. If necessary begin artificial respiration and administer adrenalin and other stimulants hypodermatically. In cases with very thick exudate, which will not flow through the needle, gentle irrigation with warm water saline will often start the flow. If this measure fails, a small quantity of serum may be injected under pressure and the process repeated after a few hours; this, however, is attended by danger of convulsion, collapse, or even death.

If the condition of internal hydrocephalus develops with shutting off the communication between the ventricle and subarachnoid space, intraventricular injection of serum is advisable.

It is urged that C. S. fluid be sent to the examining laboratory as soon as possible after withdrawing from the canal, as the organism may not be found if examined later than six hours after the fluid has been obtained.

DOCTORS IN TIME OF PERIL

We have refrained from commenting on an editorial in the *A. M. A. Journal* under this caption at the time of the Ohio floods, waiting to see what it would call forth. Dr. Cosner reported that he thought the osteopaths showed up well and that he doubted if the Dayton medics would endorse the silly position of the talented writer of the article in question, which was rather widely quoted. Dr. Mundy, Forest, Ohio, an eclectic, rises up and says things in the *Eclectic Medical Journal* which shows he has ideas of his own:

This portion of the editorial exhibits the smallness and pusillanimous soul of the writer. For contempible and low spirit it eclipses anything we have ever read in a scientific journal for many months. It is a fair example of the methods used by the clique in controlling the A. M. A. in crushing all opposition to its methods. We doubt if the political demagogue and ward trickster would stoop to such methods. No man of high ideals in life, either intellectually or morally, would allow himself to give expression to such thoughts, especially in the face of such a calamity as befell the State of Ohio.

* * * The writer of the editorial exhibits a woeful ignorance of human nature when he presumes to think that the train loads of physicians and nurses were all of one persuasion. They simply represented the spontaneous outburst of American citizenry responding to a common call. When such calls come, the question of sect or creed, either religious or political, is never raised; it is simply the generous outburst of man's better nature. Differences in opinion are forgotten, the one common thought is to render assistance to the suffering. True manhood is not all wrapped up in the ranks of allopathy by any means.

* * * The American people are now being regaled by newspaper accounts of a wonderful cure that, if exploited by a member of any sect or cult, would be most bitterly denounced by this same self-righteous journal in which the editorial appeared. No name nor language would be too mean and low to attach to him. Yet this is in the name of *scientific medicine*. How about secret and proprietary medicines? It has always seemed strange to me how intolerant and bigoted one becomes when overtaken by a sudden spasm of righteousness. It is true in religious life, true in political life, and is equally true in medical life as well. The reformed man or woman is the most intolerant of all and often displays traits of character that are despicable. It is this same mean, contemptible spirit of intolerance and bigotry that characterizes the tenor of the editorial in question. We know by experience that the branch of the medical profession which the journal is presumed to represent, does not contain within itself all that is good, honorable and useful by any means. We could name some of the shortcomings of those loudest in denunciations of the shortcomings of others. We commend to the writer of the editorial in question a study of "the parable of the Pharisee and Publican."

EXAMINING AND LICENSING BOARDS

If more homeopathic journals would speak up and take a decided position like the following on vital subjects which affect them to

as great an extent as they do all other branches of medical practice outside of the allopath, it would be better for them and their associates:

The spirit of the law establishing these boards was to prevent incompetent men from practicing medicine. In time these boards assumed a power to throw out colleges, a power which seems to be contrary to that given them by letter of the law. Today we have a condition in the noble profession of medicine that would make the gods on Mt. Olympus roar with laughter at their companion who presides over medicine. The men from an old university or college may practice in this State, but may not even apply for "examination" in that; and, on the other hand, the excluded men are permitted to practice in other States, where the first named are, in turn, excluded. One can imagine the laughing gods asking Apollo whether the great profession, ruled by his son Æsculapius, about which he has bragged so much concerning its lofty character, is, after all, on the same level as the tariff on wool, steel, sugar and the other articles of merchandise.—Editorial in *Homeopathic Recorder*.

The *American Journal of Surgery* has this to say concerning the recent contention over the right of licensed osteopaths to sign death certificates in New York City. It shows that we are not held in any greater esteem now than before we had the great and solemn privilege of paying the County Clerk to register our license, which then conferred no further rights than already possessed:

In connection with the general opposition to osteopathy, there was considerable dissatisfaction when the Regents of the State of New York admitted followers of Still to examination under their auspices. By the laws of 1907 the practice of osteopathy was recognized as a branch of medicine in New York State. The state law does not involve registration with local boards of health, consequently the New York Department of Health, whose Sanitary Code required physicians to register, refused to acknowledge osteopaths as practitioners of medicine.

In 1909 a sub-section of the New York City Sanitary Code was amended so that no permit for the burial or transportation of a corpse would be permitted without a certificate of death "signed by a physician upon whom has been conferred the degree of doctor of medicine." The legality of this action, which prevented osteopaths from signing death certificates, was attacked. The position was sustained through the courts, including the Court of Appeals.

In May, 1913, the Board of Health took a more liberal view of the state law and amended the Sanitary Code so that the death certificate could be signed "by a physician who has been granted a license after a medical examination, conducted by the New York State Board of Medical Examiners, the questions for which have been prepared by the Board of Regents of said state." This enactment recognizes the few osteopaths who have fulfilled the requirements of the State Board of Regents. The large number of osteopaths, however, who were permitted to practice under a special provision in favor of osteopaths actively engaged in practice on May 13, 1907, were not included among those permitted to sign death certificates.

It is of course desirable to have harmony between state laws and local laws, but it is fortunate that the Sanitary Code enables the local boards of health to protect the community from the effect of pernicious legislation which it at times secured through lobbying or special interests.

This recent action by the New York City Board of Health tends to establish osteopaths on a stronger basis, though fortunately some protection is afforded through the limitation of the type of osteopaths whose diagnosis is regarded as acceptable to the Department of Health.

The difficulties in securing accurate vital statistics involve the necessity of having death certificates filled out by persons capable of making correct diagnosis. Any cult which has for its basis such a limited pathology as is indicated by the basic principles of osteopathy lacks facility for correct diagnosis. There is a great problem connected with this recent action, insofar as it may invalidate some of the death certificates as far as mortality statistics are concerned.

BOOK REVIEWS

PHYSIOLOGY: GENERAL AND OSTEOPATHIC.—By John Deason, Sc. B., M. S., Ph. G., D. O., Director of the A. T. Still Research Institute, and formerly Professor of Physiology in The American School of Osteopathy. 8vo. of 586 pages. Profusely illustrated with cuts and full page colored plates. Kirksville Journal Printing Company, 1913. Cloth, $4.00.

The workers in general physiology do not give any consideration to the principles upon which the science of osteopathy is based. The osteopathic student, therefore, cannot get sufficient understanding of the subject from a study of general text-books. The author says, "This book has been prepared for the purpose of meeting this demand. It is offered only as a contribution to the general subject of physiology, as a special contribution to osteopathic literature, and is not intended to revise the whole trend of physiological or osteopathic thought. No attempt has been made to conform to the theoretical conventionalties so common to the general texts on physiology, but on the other hand, the authors have endeavored to make the book thoroughly osteopathic because it is written for the use of osteopathic students and physicians. The book has been arranged in two parts, the first giving the principles of general physiology, omitting as much as possible of the seemingly unnecessary theory, the second giving the results of original osteopathic research. I am very deeply indebted to Drs. McConnell, Burns, and Whiting for the excellent summaries of their research work, and to Dr. Millard for the drawings which he has prepared and from which all the colored plates have been made."

Dr. Deason's book will be a great factor in placing osteopathy before the world as a scientific method of healing. We take pleasure in recommending it to the profession, who will find it very readable, practical, scientific, and above all else, osteopathic.

THE CARE OF THE SKIN AND HAIR.—By William Allen Pusey, A. M., M. D., Professor of Dermatology in the University of Illinois. 16mo. of 182 pages. Illustrated. New York, D. Appleton and Company, 1912. Cloth, $

This practical little book, by one of the foremost American dermatologists, will be welcomed by both physician and layman, as a reliable source of information on the care of the skin and hair. Herein one learns how to bathe properly, how to free the skin from defects and blemishes, and how to keep the hair clean and healthy. The relation of the general health and diet to the condition of the skin and hair is discussed at length. Women in particular will prize this book, especially the chapters dealing with the use of cosmetics.

STERILITY IN THE MALE AND FEMALE AND ITS TREATMENT.—By Max Hühner, M. D., Chief of Genito-Urinary Department, Harlem Hospital Dispensary, New York City. Crown, 8vo. of 262 pages. New York, Rebman Company, 1913. Cloth, $2.00.

The subject of sterility deserves more careful study than the average physician gives it. Many women are made to undergo radical operations for the relief of this condition, when a greater knowledge of the subject might save them endless pain and the cure effected by simpler and more positive methods, or their husbands found at fault and treated instead. Investigators along this line are few and the literature very meagre. Dr. Hühner has investigated more fully than any of his predecessors. He remarks, "From all of these investigations I have drawn certain practical conclusions and have outlined a method of treatment of sterility in the male and female based upon scientific investigations. I have thought it advisable to limit this work as far as possible to my own investigations, and to record the fact that cannot be found elsewhere, than to burden its pages with detail which can be easily found in text-books on gynecology or other sources of medical literature. The object of this book is twofold. In the first place, it will present the results of original work and study on the subject of sterility, pointing out at the same time certain errors which have been copied from one text-book into another without investigation or challenge; and in the second place, it will present a practical method of the treatment of sterility in the male and female based upon scientific investigation and accurate pre-operative diagnosis." The method of procedure has been so simplified as to bring it within the reach of the average physician. C. N. C.

Correspondence

THE KIRKSVILLE MEETING

The meeting of the Association which was held at Kirksville this year was, in many respects, unique. The celebration of the "Old Doctor's" birthday, with its parade, its barbecue and the bountiful "adjuncts" thereto, the "speakings," and all the factors in a celebration of a type which is now passing away; the unveiling of the statue which shows not only Dr. Still, but also the beauty and strength and prophecy of the intellectual pioneer; the renewal of school associations to the large majority of the A. O. A. members present—all these things, and many more, made this year's meeting one to be remembered forever.

The meeting was, for me, peculiarly delightful—and I mean the word literally. This, my first visit to Kirksville, was made as the guest of many friends, only a very few of whom are now known to me by name. Except for this, the journey would not have been possible. To see the village in which the teaching of osteopathy was begun, to talk with the townspeople who have seen the growth of this wonderful thing, to meet the men and women who are making osteopathy the broad and splendid and progressive science which it is today, these are only a few of the delights of the week at Kirksville. My visit to Dr. Still at his home, with Dr. York and Miss Germane, is an event to be kept carefully in memory. The splendid, indomitable soul of him, shining with deathless youth through the mannerisms due to his lifetime's happenings, and the frail parts of the body in subjection to the passing of strenous years, is a lesson of worth and beauty beyond compare.

LOS ANGELES. LOUISA BURNS, D. O.

LEGISLATION IN GEORGIA

We have just completed another fight in the legislature of Georgia over medical legislation. The allopaths introduced a bill for a composite board, with one osteopath, one homeopath, two eclectics, and five allopaths. We osteopaths violently opposed putting our board out of business and we made such an impression on the allopaths that they came to us with a committee, the next day after a conference with us over this matter, and told us that they had concluded to leave us with our board and they would take up the composite board with the eclectics and the homeopaths.

The eclectics and the homeopaths both objected as we had done, but their objections were to no avail, for they introduced the bill with five allopaths, two eclectics and one homeopath on the board.

We were sure that they left us stay off in order to divide our forces. In the clause in which they left us off of the board they used the following language: "This act shall not apply to the osteopaths so long as they do not use drugs or administer medicines." This was directed toward us in order to try to prevent us practicing major surgery or the using of anesthetics and antiseptics. We used this as a reason to get into the fight and we

joined with the eclectics and homeopaths, and we gave them the best we could summon to our aid.

The result was that we won over the allopaths by keeping our own board intact and we got an amendment to the bill that gave the eclectics and homeopaths equal representation on the composite board.

The allopaths today dread our opposition more than they do any other competitor. They compliment us on all occasions by their effort to get rid of our opposition.

Our fellows down in Georgia did excellent work all over the state. We have a live set of people down here and they are as loyal a set of people as you will find anywhere. Drs. J. R. Barge and W. H. Bowdoin were members of the legislative committee with the writer. Drs. Bragg, Blackman, Bowdoin, Barge, of Atlanta; Jones, of Macon; Lorenz, of Columbus; Richards, of Savannah; Thurman, of Americus; Harris, of Marietta; Riley, of Rome; Layne, of Griffin: Walker and Walters, of Athens; Elliott, of Cordele; and Trimble, of Moultrie, were especially active in the fight.

There are some defects in the law which will be fought out in the courts, if the allopaths see fit to try to enforce it. I feel sure that they were greatly disappointed, for as soon as we amended the bill, so as to keep from them the majority on the board, they lost interest and collapsed right there. They systematically brought the leading doctors from all over the state to the Capitol to work on the members. They would bring some five or six from each Senatorial District and keep them here for two or three days for their work on the members. They kept a delegation of ten or twelve here all of the time. In this way they worked the whole state systematically. But they over-did it. The members told me that they were disgusted with the doctors; that they could not attend to business for the constant annoyance they met with by a committee of doctors meeting them at every turn.

This has been the bitterest fight we have ever had in Georgia. The allopaths are sick. I have recommended some osteopathic treatment to some of them, but I expect that the osteopathic treatment is their chief trouble now —they got too much of it. In our combined fight, an osteopath was selected as manager of the campaign. We hope our success will encourage others.

M. C. Hardin, D. O.

Atlanta, Ga.

THE TUBERCULAR SPINE

I quote from the Journal for August, 1913, page 757:

"One of the best popular osteopathic journals in a recent issue recommended active manipulation of tubercular spines in the acute stages of the disease. This is contrary to experience and to the teachings of science, and will surely work harm to osteopathy, not to mention making our practice ridiculous in the eyes of the medical world."

One of our greatest handicaps is the fear of what the so-called scientific medical authorities will say about us and our methods. We pay altogether too much attention to what our opponents are liable to say about us and try to stifle any idea that may at first appearance seem a little out of the ordinary. We are never going to travel very far on their endorsement, and they cannot say any worse of us than they have already said, so why bother our heads about the matter?

How far would the osteopathic idea have been developed if the "Old Doctor" had been so careful of what the "medical world" was saying about him and his work? I have seen him manipulate a tubercular spine while in the acute stage, and I certainly never heard him recommend a cast as a method of treatment. The "teaching of science" means the ordinary orthopedic procedure of some kind of cast or jacket, I suppose. (While every osteopath worthy of the name is an orthopedic surgeon, we are prone to overlook the fact that the writers of orthopedic text-books are not all osteopathic.)

What is this cast supposed to accomplish? First, to immobilize the point of lesion; secondly, to relieve the point of lesion of the weight of the superstructure. (I think that would meet with the approval of any state board in the country.) Now is this the truth. I say *"No."*

If properly applied, the cast will relieve the lesion of the weight, but it certainly does not immobilize the affected parts. No one ever saw a case of tubercular spine in which the parts in lesion were not immobilized by nature when the case was first seen and diagnosed. One of the cardinal signs is the *rigidity* of the lesion and surrounding tissues. Nature does this to minimize the pain caused by the weight above the lesion. Irritation is lessened by this immobility, but the circulation is impeded thereby and it is a secondary lesion, and is contributory to the chronicity of the trouble.

The cast is applied and the weight sustained independently of the part in lesion. What takes place then? The irritation being removed, the pain disappears and the tissues surrounding the lesion begin to relax and *mobility* is re-established. (Of course, we all know that if bony ankylosis is a part of the immobility, that will not be overcome.)

Now suppose for a moment that we had never heard of the cast method and see what we could do. To get rid of the weight irrita-

tion, put the patient on the bed and keep him there. To normalize the circulation in the spinal tissues surrounding the part affected, we can conceive nothing more effective than osteopathic manipulation. Manipulations do not necessarily mean harsh or severe treatment. No one who would initiate treatment of this kind in a case of this nature would feel impelled to *"pop"* the joints in lesion; but easy manipulation of the inflamed and rigid tissues is certainly indicated and such treatments could be given at least daily until the rigidity was relieved. The usual treatment by cast and then allowing the patient to run around for two or three months, then changing to another cast for a like period, altogether covering a year or more, is not osteopathic in any sense of the word. In any tubercular bone infection, the sooner it can be walled off in quiescence, the better for the patient; and one of the most beneficial steps to take is to cut out all exercise, so that all the energy of the organism may be directed to overcoming the infection. In the case of children, it is sometimes hard to induce them to remain in bed, but if you have confidence in your work, you can offer them some such alternative as this: Six weeks in bed or nine months in a cast.

That may seem to be rather exaggerated, but it can be done. Some wonderful things can be done by osteopathic treatment if we only give it a chance. We should never lose sight of our osteopathic fundamentals: free blood and nerve supply. There is nothing more incompatible with these than the idea of immobility. Thorough relaxation in bed is the exact opposite of immobility. There may not be motion, but there is mobility.

Our great danger is not obsorption by the medics, but our own absorption of so much medical method that we will crowd osteopathy out of our practice. When we become so imbued with these methods that we experience a thrill of horror when someone suggests a purely osteopathic treatment of disease, it is time that something be done to remedy the condition. Reginald Platt, D. O.

Barnesville, Minn.

Editor's Note.—The quotation made by Dr. Platt is from one of the A. O. A. committee reports urging a censorship of literature published for professional use. This particular recommendation in the committee report was referred to a committee of the Board, reported favorably, discussed full by the Board of Trustees, and adopted. Because the Board took this position does not necessarily make it the correct position, but at least, it is the view of the dozen or more present when the report was considered.

We have no wish to discuss in detail the points brought up by Dr. Platt, but a general principle or two is involved upon which we wish to say a word. We agree heartily that we need not turn our procedure wherever it runs counter to medical practice and that reference in the report might as well have been omitted; on the other hand, there is no reason for our going out of our way to give scientific people cause to speak ill of us. Our course it to be independent in our thought and practice, but not go out of our way to make us *seem* ridiculous.

The question of manipulating acute tubercular spines was not raised by the association, but elsewhere, and we do not care here to discuss it further than to say that although Dr. Platt may have seen Dr. Still manipulate such conditions, it can hardly be argued that this fact makes it a safe procedure for everyone else. Dr. Still may have been trying it out, and at any rate, it is generally known that Dr. Still's school no longer teaches or practices the procedure, but uses the casts.

In this connection we wish to remark that it is regrettable that we are forced to change our views on questions of practice; but if we are honest and if we advance, this is absolutely necessary. Consistency, insofar as it means believing in the same things year after year, is not our object, but rather truth and the highest usefulness. Don't get away from that; we are searching for truth and when ample experience proves that one position is wrong, we must be manly and leave it and search for one on which we can stand. Fortunately we have not had to recede from many positions, thanks to the clear insight Dr. Still had, which is more than some schools of practice can say.

Among the Societies

Arizona.—Under the law recently passed, Governor Hunt has appointed George W. Martin, D. O., of Tucson, a member of the Board of Medical Examiners. The appointment was contested by the medical profession, but under the opinion of the Attorney General the appointment was made. The qualified osteopathic physicians practicing in the state at the time the law went into effect were registered without examination, as follows: George W. Martin, Tucson; W. J. Mulrony, Yuma; C. H. Totten, Prescott; W. H. Jull, Phoenix.

Colorado.—The semi-annual meeting of the Colorado Association was held July 28-31, at the Brown Palace Hotel, Denver. The first two days were devoted to Technique, conducted by D. L. Tasker, Los Angeles. On the last day of the session, Dr. Louisa Burns discussed "The Treatment of Minor Psychoses." (Printed in this issue of the Journal.)

The profession of Northern Colorado held a special meeting on August 26th. After dining, they assembled with L. B. Overfelt, Boulder, where a very interesting and instructive lecture on Technique was given by Ethel Louise Burner, of Blommington, Ill. Those present were Drs. D. L. Clark, J. T. Bass, M. C. Payne, R. B. Powell and Jenette H. Bolles, Denver; Benson, Schumacher and Bowersox, of Longmont; Overfelt and Burrus, of Boulder.

KANSAS.—The Kansas State Board of Osteo-Examiners will hold its second examination at National Hotel, Topeka, October 8th. All applications should be in the hands of the secretary, F. M. Godfrey, Holton, Kansas, at least ten days previous to that date. The law requires all applicants who graduate after June, 1907, to have had a diploma of graduation from a high school, academy, state normal college or university before taking up the study of osteopathy or a certificate of examination for admission to the freshman class of a reputable literary or scientific college.

The Board grants reciprocity to those who come with proper credentials from states extending the same privilege. Temporary permits may be obtained when necessary. All of the applicants who took the examination June 27th and 28th passed, averaged grades running from 94 to 88 per cent.

MAINE.—The ninth annual meeting of the Maine Association was held in Rockland, June 28th. The meeting considered the problem growing out of the increased number of irregular practitioners in the state and appointed a committee to deal with the situation. A Publicity Committee was also appointed.

The following officers were elected: President, Genoa A. Sanborn; Vice-President, M. E. Hawk; Secretary, Florence M. Opdycke; Treasurer, T. L. McBeath; Trustees, A. E. Chittenden, George W. Tuttle, Sophronia T. Rosebrook.

MICHIGAN.—The regular meeting of the Southwestern Michigan Osteopathic Association was held in the offices of Drs. Keene B. and Beatrice N. Phillips in Kalamazoo, September 6th.

Dr. J. Deason, Director of the A. T. Still Research Institute of Chicago, gave the principal address of the evening. His subject was "Spinal Perversions Produce Abnormal Physiology as Shown in the Research Institute." He also gave a short talk on "Research," highly commending the work done by Dr. McConnell of Chicago, and Dr. Louisa Burns and Dr. Whiting of Los Angeles. He spoke especially of the value of the Research Institute to the practitioner and emphasized the fact that osteopaths should keep an accurate record of cases and so help build up statistics for the osteopathic profession. He stated that the Institute was now in a position to make all kinds of laboratory examinations for the profession at a very small expense and urged that practitioners avail themselves of this opportunity.

Dr. Evelyn Bush, of Louisville, Ky., was present and gave a very interesting talk and demonstrated exercises used in conjunction with osteopathic treatment in cases of paralysis.

MISSORI.—The Missouri Association met in Kirksville on August 6th and elected the following officers: President, A. B. King, St. Louis; Vice-Presidents, F. P. Walker, St. Joseph, Frank Bigsby, Kirksville; Secretary, Arlowyne Orr, St. Louis; Treasurer, Lou T. Noland, Springfield; Trustee, B. J. Mavity, Nevada; Member Legislative Committee, W. H. Graves, Jefferson City.

NEBRASKA.—The fourteenth annual meeting of the Nebraska Association will be held at Grand Island, September 24th and 25th. The program will consist of presidential address, E. M. Cramb, Lincoln; "Blood Pressure," C. K. Struble, Hastings; "Anatomy and Physiology of the Dorsal Region," C. B. Atzen, Omaha; "Intestinal Obstruction," M. L. Cleveland, Wayne; "Spinal Curvature," W. R. Archer, Lincoln; "Neurasthénia," J. M. Kilgore, York; "Metritis," Myrtle Moore, Crete; "Milk Diet and Fasting," Hugh W. Conklin, Battle Creek, Mich.; "Anatomy and Physiology of Cervical Region," G. H. Yoder, Friend; "Migraine," Peter Kani, Omaha; "Acute Tonsilitis," J. T. Young, Fremont; "Mucous Colitis," N. J. Hoagland, Central City; Discussed by Jenny Laird, Omaha.

NEW JERSEY.—Osteopathic physicians, although licensed by the state, cannot hold the position as Health Inspector in the Public Schools, according to the opinion handed down by the State Department of Public Instruction, which was rendered in reply to a request from the Board of Education of Sussex, N. J. The Board asked for the ruling because of the application of Carolina Wallin, D. O., for appointment, but the State Department of Education held that inspectors must "hold a license from the State Board of Medical Examiners granting the privilege of practicing medicine in New Jersey." It is not known at this writing whether the case will be taken to the courts.

NEW YORK.—The annual meeting of the New York Society will be held at Albany, November 14 and 15. A splendid program has been arranged, including the most capable local talent and Dr. F. C. Farmer of Chicago, who will demonstrate technique, and Dr. J. D. Edwards of St. Louis, who will demonstrate his methods

which have been so successful in curing partial deafness. Full program in next issue of Journal.

North Carolina.—The tenth annual meeting of the North Carolina Association was held at Raleigh, July 12th. Officers were elected for two years as follows: President, A. R. Tucker, of Raleigh; Vice-President, W. E. Crutchfield, of Greensboro; Secretary-Treasurer, M. J. Carson, of Rocky Mount. A. J. Little, of Charlotte was named as a trustee for three years.

Ohio.—The Dayton District Osteopathic Society resumed its meetings with the session held in the office of W. A. Gravett in Dayton, September 4th. The attendance was good and the discussion turned on the "Surgical and Orthopedic cases demonstrated before the Kirksville meeting." The next meeting will be held October 2nd.

Oregon.—J. A. Van Brakle was appointed Health Officer for Oregon City on September 10th, according to the *Portland Oregonian*. The local physicians had signed a petition to the County Court asking for the appointment of one of their number, who had been deposed by the State Health Board, each of them declaring that we would not accept the place. The court had the impression that the doctors were thus trying to make the appointment as they chose, far under the law the physician must have an office in the county seat. All of the regulars in the county seat being bound by the agreement, they appeared to think that they had the matter settled according to their own liking. Judge Anderson of the County Court, however, appointed J. A. Van Brakle, D. O., county physician, and the medical men are very angry and announce that they will not recognize the appointment.

Dr. Mabel Akin and daughter will leave Portland the first of October to spend the winter abroad.

F. E. Moore, of Portland, spent several weeks recently with his mother at Santa Rosa, Calif.

At the examinations held by the Medical Board, July 1-3, about fifteen applicants for osteopathic license successfully passed and were granted the same.

Pennsylvania.—The Board of Osteopathic Examiners, at its meeting held on August 1st, re-elected O. J. Snyder, Philadelphia, President; V. A. Hook, Wilkes-Barre, Secretary; H. A. Goehring, Pittsburg, Treasurer. The other members of the Board are F. B. Kann, Harrisburg; B. W. Sweet, Erie.

The Philadelphia County Society held its opening meeting, September 18th. There were almost one hundred present and great interest was manifested. The preliminary preparations for the 1914 meeting were taken up, and H. L. Chiles, Secretary of the A. O. A., and Richard Wanless, Chairman of the Program Committee, were present and went over the several features with the organization.

Everyone appeared enthusiastic and the organization will immediately take hold and continue meetings at frequent intervals with a determination of making it the best meeting ever held.

Quite a little undesirable notoriety has been given the practice in and about Pittsburg, due to the papers reporting that a young woman had suicided because of "treatment" by one of the well known osteopaths of the city. The "well known osteopath" is one of the irregulars in the state, and while the profession in the state has corrected the impression as far as it was able to do so, the original statement has been largely copied by the papers over the country far in excess of its news value, which no doubt could be accounted for by the activity of the medical publicity bureau.

Ontario.—The thirteenth annual meeting of the Ontario Association was held September 5th in Toronto. President Bach, in his address, dealt especially with the expansion of osteopathy and the constantly growing appreciation of the practice by the people of the Province. H. J. Pocock gave a full and interesting report of the A. O. A. convention at Kirksville. Officers elected for the year are: President, R. B. Henderson, Toronto; Vice-President, G. W. Amsden, Toronto; Secretary, E. D. Heist, Berlin; Treasurer, J. N. Macrae, Galt.

A resolution introduced by J. E. Horning, of Toronto, welcoming the appointment of a Royal Commission to deal with the question of medical education and practice in the province. The resolution was adopted and the secretary directed to send copy of the resolution to the government.

A resolution was also introduced endorsing the American National Assurance Company of St. Louis, because it appointed competent osteopathic physicians as examiners, making no discrimination against them as the other companies do.

Papers read by Dr. Amsden, Toronto, on "Electro-Therapeutics in its Relation to Osteopathy, dealing especially with stomach trouble;" A. D. Sinclair, Toronto, on "Flatulence," and E. J. Gray, St. Thomas, on "Anatomical Disorders of the Lower Back and Pelvis." Dr. Gray concluded that, "In future it will be considered positively criminal to operate on a patient, anywhere in the body, when there exists an uncorrected lesion of the lower lumbar and the sacro-iliac joint."

The speaker of the afternoon was Dr. J. D. Edwards, St. Louis, Mo., who has done very sucessful osteopathic research work on the cure of deafness. He demonstrated on the

cadaver and on several patients, a wonderful method of treating catarrhal deafness, by which he very frequently can produce an improvement in hearing in one treatment.

It was a most successful convention, attended by the majority of the osteopathic physicians of Ontario, as well as several from Buffalo and other outside points.

EDGAR D. HEIST, D. O., *Secretary.*

Notes and Personals

THE RESEARCH INSTITUTE

The Research Institute is now prepared to do laboratory work according to the most approved methods and at a price very much less than would ordinarliy be charged for this character of work. The fees for both chemical and microscopic examinations are very reasonable and the work is guaranteed of the highest character. The profession should take advantage of the opportunity.

In this connection, Dr. Deason wishes to state that by a mistake of the printers some of his books were sent out with the express charges collect. If those who received such a copy will write him, stating the amount of the charges paid, he wishes to refund the money. He has not a list of those to whom the volumes were sent or the refund would have been made already.

MOVING PICTURES COPIED

Leslie's magazine shows the pictures taken by the moving picture apparatus of the parade at the Kirksivlle meeting, with a very satisfactory explanation of the occasion and event. As stated in the last issue of the JOURNAL, Dr. C. E. Still arranged for these pictures and they can be had for any moving picture show by the manager applying to the Yale Film Co., Gayety Theatre, Kansas City, Mo.

AN EXCELLENT MOVE

Newspaper dispatches state that the Blees Military Academy property at Macon, Mo., will be purchased and turned into an osteopathic institution for the care of nervous and mental cases. If the plan goes through as proposed, it is understood that Dr. A. G. Hildreth will have charge as the physician-in-chief.

As all state, and practicall all private, institutions of this kind are closed to osteopathic physicians, this would seem to be a splendid move, and if it is carried out as proposed and conducted in a first class manner, it is entitled to the hearty support of the entire profession. Every osteopathic physician of experience is firmly convinced that there are literally thousands in these institutions whose conditions might be cured or greatly amelioriated by proper osteopathic treatment. If this institution succeeds, the profession will have the opportunity of demonstrating what the system will do with these cases upon which established methods have practically no results.

TREATING IN PRISON

Dr. M. F. Hulett was recently called to the Ohio penitentiary to treat one of the prisoners confined there, whom he reports to be sadly in need of the treatment. The patient in this case was one of the former senators of the state who is now occupying a cell for accepting bribes.

CHICAGO A. S. O. ALUMNI MEET

The Chicago A. S. O. Alumni will hold their semi-annual meeting September 20th, at Hotel Sherman, Chicago. Dinner, 7.30 p. m. George A. Still will be the speaker of the evening. Fred W. Gage is chairman of the Program Committee.

DR. FECHTIG'S HOUSE

Dr. Fechtig announces a very successful season at his summer house, Haines Falls, N. Y. This was closed on September 15th, and his patients are all transferred to his permanent house at Lakewood, N. J.

Dr. Fechtig has shown his capacity to conduct institutions of this kind most sucessfully and he is entitled to the co-operation and patronage of the profession, particularly of the East.

EL PASO ASSOCIATION EXPLAINS

Many of the profession have received letters from El Paso, signed "J. M. White," stating that "J. J. Pearce and H. F. Wright like your President, give drugs, and claim that they are the essential element in the healing of disease." Dr. Pearce writes that many have written to him on the subject, consequently he wishes a statement made to the effect that the statement as to giving drugs and dependence upon them is true neither of himself nor Dr. Wright, and that this man White was recently a street car conductor of El Paso, and is at present a sort of private detective and it is the opinion of the profession there that he is now the agent of a notorious advertiser of that city.

MEDICAL SECTARIANISM

Some months ago John B. Nichols, M. D., President of the Medical Society of the District of Columbia, delivered an address upon this topic, which was published in the *Journal of the A. M. A.*, Volume 60, No. 5. Fred N. Stein, D. O., of San Diego, recently asked Dr. Nichols if he used scientific methods in investigating osteopathy in making such statements concerning it as appeared in the address. In reply Dr. Nichols writes that he did use scientific methods and as a result of that he was contrained to the opinion set forth. Dr. Stein is interested to know what college Dr. Nichols attended or what scientific methods he applied, but on these points the Doctor gives him no information.

A CORRECTION

In the stenographic report of the proceedings of the meeting printed on page 744 of the last issue of the JOURNAL, the report read that Dr. J. D. Edwards stated that he had treated 4,000 cases in the past fifteen years. Dr. Edwards says that this an error, and should have read "400 cases of partial deafness in the past few years." Dr. Edwards' work seems to have been highly appreciated and he does not wish this exaggerated statement to go uncorrected.

LEGISLATION IN MONTANA

Readers will recall that in a recent issue the JOURNAL spoke of the bill passed by the legislature of that state, providing that all hospitals within the state exempt from taxation should be open on equal terms to all licensed physicians of the state without discrimination as to school of practice. In a letter from George M. Cole, D. O., of Great Falls, Mont., the writer states that it is simple justice that it be known that, although many of the profession in the state helped, Asa Willard gave very largely of his time and efforts in securing the passage of this bill and this in spite of the tremendous amount of work that he has done as chairman of the Legislative Committee of the A. O. A.

GOLD MEDAL AWARDED

The International Medical Congress, which met in August, awarded the Gold Medal to Redman Company, American office, 141-5 West Thirty-Sixth Street, New York, for the best medical publications. These publications are advertised and reviewed each month in the JOURNAL.

TRAVELING IN EUROPE

An unusually large number of the profession appears to have spent their vacation in Europe the past summer. Among the number who have sent messages from abroad are Drs. Florence A. Covey, Portland, Me.; H. H. Fryette and wife, Chicago; George Still, Kirksville; F. W. Morris, Paterson, N. J.

Dr. Cornelia A. Walker, of New York, is now traveling in Europe with the authoress, Frances Hodgson Burnett.

Caryll Smith, Aberdeen, Wash., has been in Europe the past summer visiting the hospitals of London, Paris and Vienna.

Dr. Carrie C. Harvison, of Des Moines, has left for Europe to spend a year in special study.

PERSONALS

Drs. Agnes Waltrude Scallan, Professor of Hygiene, and Millie Estelle Graves, Professor of Osteopath Technique in the Chicago College of Osteopathy, attended the recent sessions of the International Congress on School Hygiene at Buffalo and were greatly pleased with the character of some of the work reported. They expressed the opinion that on many subjects the medical men are groping for light and some day will be greatly helped by getting the osteopathic viewpoint on many of these questions.

F. H. Martin, recently of Highland, Kansas, has been caring for the practice of R. M. Wolf, of Big Timber, Mont., while the latter has been suffering from a serious case of sciatic neuritis. Dr. Martin has engaged offices in Helena and will locate there as soon as Dr. Wolf entirely recovers.

Ernest W. Bush, who has practiced in Bethlehem, N. H., for the past three months, has now returned to Washington, D. C., where he has offices at 2804 Fourteenth Street.

S. L. Scothorn, of Dallas, has been appointed member of the state board of osteopathic examiners to fill the vacancy caused by the resignation on the Board of Paul M. Peck, of San Antonio.

Dr. Mary Walters, who was forced by ill health to discontinue practice, has now reopened offices at Santa Barbara, Calif.

Ralph A. Sweet, recently of Rockland, Me., has returned to Providence, R. I., where he practiced for a number of years before going to Maine.

Drs. S. S. and Ella D. Still have left Des Moines and are connected with the American School of Osteopathy at Kirksville. The Des Moines papers speak in the highest terms of the place the Drs. Still have won for themselves professionally and socially in the city and expressed deep regret at their decision to return to Kirksville.

Dr. B. A. Bullock, after spending a year in a special work in orificial surgery in Chicago, has returned to Detroit, Mich., and opened offices for the practice of osteopathy in Stevens Bldg.

MARRIED

On August 20th, at Toronto, Ontario, Dr. Fanny M. Blackford to Dr. Harold E. Illing. At home after September 15th, Victoria Palace, 242 Gladstone Avenue, Toronto.

On September 6th, Dr. Mrs. Nella B. Clark, of Boston, to Dr. Earl J. Drinkall, of Chicago. Both are graduates of the A. S. O., where Dr. Drinkall held the fellowship in Histology for two years; he was also editor of the *Atlas and Axis Bulletin* for the same period.

On August 12th, Dr. Florence O. Schaepe, Huntsville, Mo., to Mr. F. C. Britt, of Cedar Rapids, Iowa. They will be at home after September 15th, Walton, Florida.

On July 14th, Miss Mary Christine Duis and Dr. Arthur Emery MacGalliard, at Granite City, Illinois.

On July 5th, Mrs. Edith Allen, of Juda, Wis., to Dr. K. W. Shipman, of Janesville, Wis.

On July 22nd, Miss Mabel Claire Jones, of Clinton, Ill., to Dr. Eugene Pitts, of Bloomington, Illinois.

BORN

To Dr. and Mrs. E. S. Detwiler, of London, Ontario, September 15th, a daughter.

To Dr. and Mrs. B. P. Shepherd, Portland, Ore., July 25th, a son.

DIED

On July 2nd, at his home in Vicksburg, Miss., of tuberculosis, Dr. L. E. Oden.

At his home in Harris, Mo., about September 15th, the Rev. S. S. Hardin, father of Dr. M. C. Hardin, of Atlanta, Ga., in the 75th year of his age. He was a Methodist minister of prominence in the Missouri conference for a great many years.

On July 3rd, at Glenwood Springs, Colo., Dr. John H. Leiter.

NEW YORK OFFICE TO RENT

The Bunker Truss Company has for rent an office 11x22 feet on the fourth floor, No. 110 West Thirty-Fourth Street, with use of two or three fitting rooms two or three days of each week. This is an excellent opportunity for an out-of-town osteopath to maintain a New York Office at a low cost. Call at Room 401, above address, on Monday, Wednesday or Friday, between eleven and four. Telephone, 6547 Greeley.

OFFICE FOR RENT IN ENGLEWOOD

Dr. Mararet E. Schramm, who has practiced in Englewood, Ill., for eight years past, wishes to lease her well equipped offices in that city three days per week. A splendid opportunity for a man of ability and standing in the profession. Address,

Dr. M. E. Schramm, Englewood, Ill.

Wanted.—As a partner in practice, a lady osteopathic physician under thirty years of age. Address, C. A. Dodson, D. O., State Bank Bldg., Little Rock, Ark.

ATTENDANCE KIRKSVILLE MEETING

(The report of Registration printed in the last issue was very incomplete. The following makes it more nearly complete, but from some cause about 200 names are still unreported.)

Arizona—Millie Burk, Clifton.

Arkansas—M. W. Higginbotham, Bentonville; B. F. McAllister, Fayette; L. J. Bell, Helena; A. E. Freeman, Russellville.

California—J. F. Froncannon, El Centro; J. S. Allison, Monrovia; Nellie M. Pierce, San Diego.

Colorado—M. W. Bailey, Denver; W. R. Benson and E. S. Schumacher, Longmont; W. E. Kellogg and J. E. Ramsey, Sterling.

Georgia—W. W. Blackman, Atlanta.

Idaho—Ida M. Sash, Idaho Falls.

Illinois—Minnie M. Baymiller, Abingdon; T. Y. Stelle, Alton; Alma C. Schloesser, Anna; J. D. Cunningham, Bloomington; J. E. Olsen, Bushnell; H. T. Miller, Canton; W. S. Dressel, Carrollton; F. A. Parker, Champaign; Henry S. Bunting, Frank C. Farmer, Clyde A. Gable, Ella T. Gable, Fred W. Gage, J. C. Groenewoud, Jennie K. Groenewoud, Nettie M. Hurd, Agnes V. Landes, Z. Martz, C. L. Miller, Carrie P. Parenteau, Joseph H. Sullivan and Alfred W. Young, Chicago; R. R. Welch, Colchester; Alice Bierbower, Colfax; W. C. Swartz, Danville; Alma Martin, Decatur; Clara M. Barker and J. W. Barker, Eureka; E. M. Browne, Galesburg; Alice Whipple, Galva; W. M. Cory, Geneva; W. I. Hartford, Gibson City; Albertina M. Gross, Joliet; E. J. Mosier, Kewanee; S. E. Conard, Hattoon; Carrie M. Mundie, Mendota; K. C. and Bertha L. Ventress, Monmouth; C. M. Sherrill and Emma M. Sherrill, Mount Carmel; Mary E. Noyes, Ottawa; A. L. Galbreath, Oakland; Geo. R. Boyer and T. F. Reil, Peoria; L. D. Robertson, Pittsfield; C. C. James, Flora E. Kaempen and E. M. Lawrence, Quincy; F. W. Hamilton, Robinson; A. C. Proctor, Rockford; Martha E. Scaife, Springfield; Loretta Backus, Stockton; Frank and Lucy Henderson, Stronghurst; D. O. Thompson, Sycamore; D. H. Craig, Wainut; Victor C. Hoefner, Waukegan; R. A. Hamilton, Whitehall; Almeda G. Dole, Winnetka.

Indiana—H. A. Duglay, Bluffton; Mrs. Croxall, Bristol; J. E. Derck, Ft. Wayne; Ella McNicoll, Frankfort; Elizabeth Jackson Geyer and Earl E. Weaver, Goshen; Chas. A. Rector, Indianapolis; A. W. Clow, Lafayette; Z. A. Nevins, Terre Haute.

Iowa—B. H. C. Farr, Adair; Addie E. Burgess, Albia; Kathryn Roberts, Bedford; Blanche E. Kinney, Bloomfield; Bert H. Rice, Carroll; A. E. Wolfe, Carson; H. A. Coulson, Centerville; Ruth M. Wright, Charles City; Dora W. McAfee, Chariton; A. E. Hook, Cherokee; E. Bowker, Colfax; W. L. Gardiner, Corning; J. F. Minear, Council Bluffs; Florence L. and L. E. Wagoner, Creston; P. B. Snavely, Davenport; Grace D. and H. L. Urhan, Decorah; Georgia Chalfant, Carrie C. Harrison, H. M. Ireland, C. W. Johnson and D. W. Roberts, Des Moines; L. E. Gordon, Fairfield; Fannie Gosden, Farley; Caroline Barker, Ft. Dodge; F. C. Card, Ft. Madi-

son; W. E. Allen, Greenwood; Pauline M. Claussen, D. D. and J. E. Owen, Indianola; B. E. and Evelyn S. Washburn, Iowa City; E. N. **Himmell, Iowa Falls**; C. J. Chrestensen, Keokuk; **Rolla Hook, Logan**; **E. C.** Polmeteer, Marengo; G. W. Graham, **Marshalltown**; W. N. Dobson, Mason City; Guy C. Trimble, Montezuma; H. C. and T. J. Peet, Monticello; T. G. Roberts, Odebolt; J. W. Snavely, Ottumwa; Minnie Bowersox, Perry; E. P. Erwin, Perry; H. A. Frandson, Roland; Mary Magers and J. T. Magers, Seymour; C. C. Dalin, Shenandoah; B. E. Atkinson, Story City; C. O. Edgington, Toledo; R. B. Ferguson, Washta; J. S. Baughman, Wellingman; A. D. Morrow, West Liberty.

Kansas—Alice Mayhugh, Atkinson, G. W. Coonfield, Dodge City; R. M. Thomas, Ft. Scott; H. E. Wells, Grenola; W. M. Coons, Hetherington; O. T. Beckett, Hiawatha; H. C. Hook and Emma E. H. Price, Hutchinson; O. Van Osdol, Junction City; E. L. Lyda, Kingsly; E. M. Owen, Lawrence; Eugene F. Pellette, Liberal; H. G. Rolf, McPherson; L. A. Howes, Minneapolis; C. N. Covert, Neodesha; Viola Orr, Newton; T. E. Childress, Osage City; J. L. McClanahan, Paola; W. M. Divoll, Powhattan; F. E. Hastings, Pratt; Mabel Link and J. J. Link, Russell; Ethel L. Hearst, Salina; J. W. McMillen, Stockton; C. E. Hulett and Stephen Temple, Topeka; W. W. Snyder, White City.

Kentucky—C. L. Brundage, Elizabethtown; Evelyn R. Bush, Louisville; G. B. Frogge, Paducah.

Louisiana—Coyt Moore, Baton Rouge.

Massachusetts—Irene H. Ellis, Sidney A. Ellis, G. W. Goode, A. F. McWilliams, Geo. E. Smith, R. Kendrick Smith and Frank M. Vaughan, Boston.

Michigan—Carrie C. Classen, Ann Arbor; H. W. Conklin, Battle Creek; C. A. Williams, Coldwater; Jas. Fraser and C. L. Rider, Detroit; Frances Platt, Kalamazoo; Elmer Charles, Pontiac; Kate R. Miller, Port Huron; J. O. and M. J. Trusblood, Traverse City.

Minnesota—W. H. and O. S. Albertson, Austin; Ray M. Jones and H. A. Rehfeld, Fairmont; W. H. Bedell, Mankato; Helen S. Halvorsin, D. J. Kenney and J. S. Rydell, Minneapolis; Franklin Fraker, Montevideo; S. H. Stover and Lily F. Taylor, Northfield; Nellie W. Nelson, F. D. Parker, E. S. Powell and C. W. Young, St. Paul.

Mississippi—Grace Bullas, Biloxi.

Missouri—Royal W. Neff, Adrian; S. D. Barker, Baring; R. H. Beets and J. F. Harding, Bethany; W. J. Deeming, Brookfield; V. H. Greenwood, Buffalo; Ursa Wimp, Canton; W. G. Chappell, Centralia; **Frances H. Singer, Chillicothe**; **I. A. Keyte,** Clarence; **Homer F. Bailey, J. B. Cole** and Minnie Floyd, Columbia; Annie McC. Brownlee, Edina; E. E. Symmonds, Greensburg; Mrs. E. E. Cain, Hannibal; Margaret Cragie, Harris; W. M. Slaughter, Harrisville; Mattie C. and D. L. Howerton, Hurdland; W. Graves and Minnie Shaw Jefferson City; Edythe L. Carel, Joplin; H. J. Everly, A. A. Kaiser, Hanna Leinbach, W. C. Thompson, Geo. Westgate, R. H. Williams, Bertha R. Wilson, S. Winterbower and Avis M. Withers, Kansas City; Etna and W. B. Curry and R. S. Halliday, Kirksville; J. H. Hardy, La Plata; J. A. West, Louisiana; E. J. Kampf, Lexington; Frank Lucas and W. N. Stuver, Marceline; O. N. Benson, W. E. Fogle and A. M. Keethler, Memphis; W. H. Hickman, Mexico; C. L. Dobson and M. G. Kirk, Moberly; J. H. Hastings, Monett; J. D. Scobee, Monroe City; Lulu McManis, Montgomery; M. C. Burrus, New Franklin; F. M. Bean, Novinger; F. W. Myrick, Odessa; Fred Taylor, Paris; E. D. Gerard, Pattensburg; O. E. Johnson, Princeton; C. M. Buell, Rutledge; Jennie Duncan, Sedalia; R. H. Nuckles, Slater; B. L. Dunnington, T. M. King and L. T. Noland, Springfield; E. D. Holme and Frank P. Walker, St. Joseph; R. B. Dodson, W. B. Dobson, J. D. Haywood, J. O. Hatten, Mitchell Miller, Florence A. Notestine, Minnie Schwab, Genoa D. Stephens and F. P. Wood, St. Louis; J. P. Smith, Sweet Spring; Erie V. Herbert, Trenton; A. D. Jones, Vandalia; J. S. Schreiner and M. S. Slaughter, Webb City; H. Raindge, Washington.

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Oklahoma—P. T. Corbin, Anadarko; F. C. Davis, Crescent; Neva Triplett, Enid; W. E. Thompson, McAlester; Laura H. Wells, Oklahoma City; H. F. Ward, Waukomis.

Oregon—Virginia V. Lerveaux, Corvallis; Harriet W. Sears, Ontario; Chas. MacFadden, Princeville.

Pennsylvania—J. C. Foster, Butler; R. S. Mack, Chester; J. W. Robinson, Erie; J. F. Hoefner, Franklin; O. C. Cole, Lewistown; Elizabeth Sash, Meadville; Charlotte J. Snyder, Mt. Pleasant; J. P. Bashaw, North East; J. A. Cohalan, W. S. Nicholl and Nettie C. Turner, Philadelphia; H. J. Dorrance and W. Kurth, Pittsburg; Homer E. Sowers, Sharon; C. Paul Snyder, Titusville; Sara Oneland, Union City; Roy W. Marsh, Uniontown.

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South Dakota—Hannah M. Betts, Madison.

Tennessee—Elizabeth and O. Y. Yowell, Chattanooga; M. E. O'Bryan, Columbia; Eliza A. Titsworth, Knoxville; Mary Brevard, Murfreesboro.

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Utah—J. F. Morrison, Ogden.

Washington—Caryll T. Smith, Aberdeen.

Wisconsin—E. J. Breitzman, Fond du Lac; Mabel J. Still, Milwaukee; L. H. Noordhoff, Oshkosh; A. H. Doe, Racine; E. Randolph Smith, River Falls; C. D. Mead, Viroqua.

Manitoba, Canada—J. H. Deeks, Winnipeg; G. Glenn Murphy, Winnipeg.

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Cramer, Oliver H. (A), 13 S. Church St., West Chester.

Shenton, Lillian P. (Ph), 15th and Poplar Streets, Philadelphia.

CHANGES OF ADDRESSES

Bedwell, T. Cleveland, from Caddo Mills, to City National Bank Bldg., Sulphur Springs, Texas.

Borup, Georgie W., from Chamber of Commerce Bldg. to Pittsburg Bldg., St. Paul, Minn.

Britt, Florence Schaepe, from Huntsville, Mo., to Walton, Florida.

Burke, Raymond J., from Camden to 512 Oriental Ave., Atlantic City, N. J.

Clements, Gertrude M., from Amarillo, to Hedley, Texas.

Coffey, Eva Kate, from Chicago, Ill., to 4510½ Moneta Ave., Los Angeles, Calif.

Cooke, Herbert T., from Clayton, Ohio, to Hicks Bldg., San Antonio, Texas.

Corbin, J. Houser, from 32 Summit Ave. to 434 Summit Ave., Westfield, N. J.

Crysler, Harriet, from Toronto to 351 River Road, Niagara Falls, Ont.

Downey, E. C., from Chanute to Erie, Kansas.

English, Dan A., from Kirksville, Mo., to South Auburn, Neb.

Everitt, E. C., from Kirksville, Mo., to State Bank Bldg., Little Rock, Ark.

Gants, S. L., from 205 Broad St. to 721 Broad St., Providence, R. I.

Gaylord, Ethel Gertrude, from Cleveland, O., to 61 College St., Toronto, Ontario.

Gildersleeve, J. Ellen, from Provident Bldg. to Amicable Bldg., Waco, Texas.

Hearst, Ethel L., from 122 North Santa Fe St. to 136 South Santa Fe St., Salina, Kansas.

Hensley, Alfred S., from Newark, N. J., to Perry, Missouri.

Hurd, Nettie M., from 81 E. Madison St. to Goddard Bldg., Chicago, Ill.

Ireland, Harry M., from 1415 29th St. to 1163 27th St., Des Moines, Ia.

Kelso, Sophronia B., from Kansas City, Mo., to Hill City, Kansas.

Laughlin, Harry I., from Chattanooga, Tenn., to 141 Park Place, Decatur, Ill.

Leinbach, Hanna, from 3348 Michigan Ave. to reserve Bank Bldg., Kansas City, Mo.

Littlejohn, Edith W. and James B., from 1422 W. Monroe St. to 401 E. Van Buren St., Chicago, Ill.

Long, George Percey, from 488 Nostrand Ave. to 476 Clinton Ave., Brooklyn, N. Y.

Lynch, Delia A., from 1707 Dodge St. to Woodmen of World Bldg., Omaha, Neb.

McDowell, J. O., from Elizabeth, N. J., to Odd Fellows Blk., Brunswick, Me.

McEwen, Margaret, from 415 Market St. to 436 Broadway, Camden, N. J.

McMains, Grace Ramsey, from The Walbert Apts. to Union Trust Bldg., Baltimore, Md.

McMains, Henry A., from 810 Union Trust Bldg. to 601 Union Trust Bldg., Baltimore, Md.

MacFadden, Charles, from Prineville, Oregon, to 784 Broadway, Denver, Colo.

Messick, Effie M., from Monmouth, Ill., to 3015 Garfield Ave., Kansas City, Mo.

Miller, Frank, from Camden to 341 George St., New Brunswick, N. J.

Moore, Ernest A., from Williamsburg, Iowa, to Belleville, Kansas.

Moore, Geo. W., from 85 Cooper St. to 17 Newton Ave., Woodbury, N. J.

Ponting, Chas. H., from Prosser, Wash., to La Grande, Oregon.

Record, Blanche B., from Cape Girardeau, Mo., to 205 S. Marion St., Washington, Iowa.

Benshaw, Della, from Detroit, Mich., to 218 South Chestnut St., Clarksburg, W. Va.

Rifenbark, R. D., from Aberdeen, S. D., to Ortonville, Minn.

Samuels, H. R., from 16 Bloor St., W., to 207 College St., Toronto, Canada.

Simpson, Robert H., from Asbury Park, N. J., to Independence, Iowa.

Smith, A. H., from Safety Fund Bank Bldg. to 16 Hartwell St., Fitchburg, Mass.

STATEMENT OF OWNERSHIP
(Copy)

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Sworn to and subscribed before me this 31st day of July, 1913. NEIL H. MILLER, *Notary Public.*

(My commission expires July 15, 1915.)

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